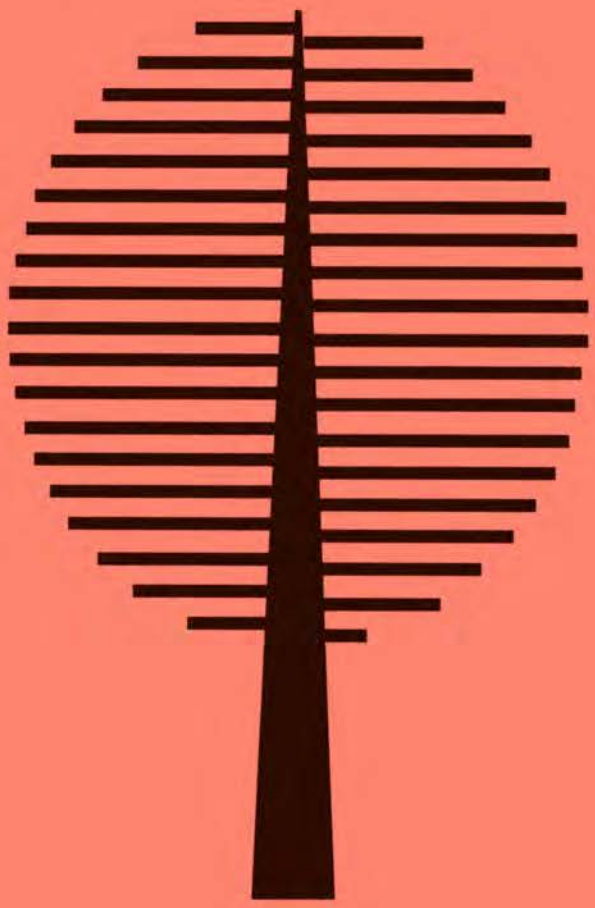
AN APPROACH TO ASSESSING PROGRESS TOWARD SUSTAINABILITY

Tools and Training Series

Overview

Approach, Methods, Tools and Field Experience



The IUCN International Assessment Team

May 1997

IUCN
The World Conservation Union

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This booklet was written by the members of the IUCN International Assessment Team which includes Ashoke Chatterjee, Eric Dudley, Tony Hodge, Alejandro Imbach, Diana Lee-Smith, Adil Najam and Robert Prescott-Allen. The group is coordinated by Nancy MacPherson of IUCN.

This work was carried out with the aid of a grant from the International Development Research Centre, Ottawa, Canada. These publications are one outcome of the project on assessing progress towards sustainability of IUCN (World Conservation Union) supported by IDRC. The project started by bringing together an international working group to discuss the problems of monitoring and evaluating sustainable development. The group soon realised that there was little point in monitoring and evaluating unless one had an idea of where one wanted to go, and that this understanding could best be developed through a questioning approach. A set of methods and tools, including the early drafts of this booklet, were developed and tested in pilot field trials in Colombia, India and Zimbabwe.

Print production of this booklet has been assisted by grants from the International Development Research Centre (IDRC, Canada) and the Swiss Agency for Development Cooperation (SDC).

About the Series

This series of eight volumes has been developed by a cross-disciplinary team for people interested in assessing progress toward sustainability. Despite differences in emphasis, the materials share a common framework and key principles. We suggest that there are four basic linked steps to understanding sustainable and equitable development:

1. Wholeness. People are an inextricable part of the ecosystem: people and the environment need to be treated together as equally important. Interactions among people and between people and the environment are complex and poorly understood. Thus we need to start by...

2. Asking questions. We must recognize our ignorance, and ask questions. We cannot assess anything unless we know which questions to ask. To be useful — to help make progress — questions need a context. Therefore we need...

3. Reflective institutions. The context for the questioning approach is institutional: groups of people coming together to question and to learn collectively. The process of reflection will, we suggest, lead inevitably to an approach that is...

4. People-focused. People are both the problem and the solution. Our principal arena for action lies in influencing the motivation for human behaviour.

The series starts with the summary document, *Overview of Methods, Tools and Field Experiences: Assessing Progress Toward Sustainability.* The other seven volumes fall into three sets:

Methods of system assessment (people and the ecosystem)

- Participatory and Reflective Analytical Mapping (PRAM)
- Assessing Rural Sustainability
- Planning Action for Rural Sustainability

Methods of self assessment (for organisations and communities to examine their own attitudes, capacities and experiences)

- Reflective Institutions

Tools (for use in conjunction with any of the methods or with other methods)

- Barometer of Sustainability
- Community-based Indicators
- Questions of Survival

Assessing Rural Sustainability and *Planning Action for Rural Sustainability* are designed to be used together. They can also be used with *Participatory and Reflective Analytical Mapping (PRAM)*, although this is conceived as a separate method. *Barometer of Sustainability* and *Community-based Indicators* may be used with any method of system assessment. *Questions of Survival* may be used with any method of system assessment or self assessment.

Methods and tools may well have to be adapted to local circumstances, and some may not be relevant. Solutions must be people-focused to be sustained. We urge the user, when using these documents, to keep in mind the underlying approach:

- recognize the wholeness of people and the ecosystem together;
- decide which questions to ask before searching for indicators; and
- create opportunities for groups to reflect and learn as institutions.

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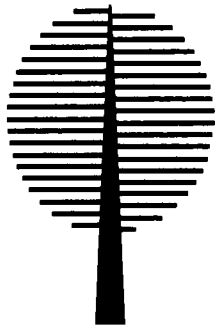

Preface

In 1992, strategy practitioners from Asia, Africa and Latin America asked the Strategies for Sustainability Programme of IUCN to provide assistance in monitoring and evaluating strategies for sustainable development. Since there was no "off-the-shelf" method of assessing multi-sectoral strategies, the Programme set out to develop an approach to such assessment with the assistance of the Canadian International Development Agency (CIDA) and the International Development Research Centre (IDRC).

In December 1993, IUCN and the Delhi-based NGO, Development Alternatives, organised a workshop in India on monitoring and evaluating strategies for sustainability. Three days were spent discussing indicators of sustainability. Yet the more material we assembled, the less headway we made. We felt as if we were sinking in an ocean of indicators with no sense of direction or context. Feedback from our field teams confirmed our fears: they too were finding it difficult to make the connection between the plethora of data on indicators with the actions needed for sustainable development.

Meanwhile, IDRC had undertaken a comprehensive review of the topic and concluded that people first had to agree on a conceptual framework and the process of assessment before addressing indicators. It had published a conceptual approach to assessing sustainability[1] that it was interested in testing and developing further.

IUCN and IDRC came together with a common interest in assessing sustainability and skepticism about focusing only on indicators. Both were also convinced of the necessity of tying theory to practice by closely combining research, development and field-testing.

1. Hodge, R.A (Tony) 1993. *Reporting on sustainable and equitable development.* Project paper 1: conceptual approach. International Development Research Centre (IDRC), Ottawa.

Preface

The IUCN Strategies for Sustainability Programme, with the support of IDRC, developed Phase 1 of the Assessing Progress Toward Sustainability project. The first step was to assemble an international team to develop and test an approach for assessing progress toward sustainability. The cross-disciplinary team consisted of people experienced in development communication, participatory development, state-of-the-environment reporting, monitoring and evaluation, and strategy formulation. Its members were:

- Ashoke Chatterjee, National Institute of Design, India
- Eric Dudley, development consultant, UK
- Tony Hodge, consultant, Canada
- Alejandro Imbach, development consultant, Costa Rica
- Diana Lee-Smith, Mazingira Institute, Kenya
- Adil Najam, Massachusetts Institute of Technology (MIT), USA
- Robert Prescott-Allen, PADATA, Canada

The team was managed by Nancy MacPherson, Head of the Strategies for Sustainability Programme at IUCN Headquarters in Switzerland.

To ensure that the approach and the methods were both useful and useable in actual decision making processes, the international team collaborated with national teams working on local strategies for sustainability in Colombia, Zimbabwe, and India:

- **Colombia.** The monitoring and evaluation unit of the Fundación Pro-Sierra Nevada de Santa Marta: Natalia Ortiz, Hernando Sanchez.
- **Zimbabwe.** The IUCN assessment team in Zimbabwe: Sam Chimbuya, Carmel Lue-Mbizvo; and the core District Environmental Action Plan team in Zimbabwe: Elliot Mhaka, Cephas Chidenga, Joseph Chizororo, Peter Gambara, Davison Haukozi, Zii Masiye, John Mbetu, Constantine Mushure, Aaron Tshabangu, Unity Tshabangu.

- India. The Development Alternatives team working on district level planning with communities and officials in Tumkur District, Karnataka State, India: C. Ashok Kumar, Vijay Pillai, Subash Marcus, George C. Varughese.

The choice of these three countries — one each in Latin America, Africa, and Asia — provided the project with experience in developing and testing the various methods.

We have tried to share the learning with other organisations working in the general area of sustainability assessment, including the Food and Agriculture Organization of the United Nations (FAO), the United Nations Children's Fund (UNICEF), the United Nations Development Programme (UNDP), the World Health Organization (WHO), the World Bank, the New Economics Foundation (NEF), World Resources Institute (WRI), and the UN-led interagency group working on sustainable development indicators for the Commission on Sustainable Development.

As a part of sharing the learning, the project organised an "Ideas Workshop" in January 1996 which brought together a group of 20 organisations working on aspects of assessment. The discussion represented a wide range of perspectives from around the world-development field work, institutional change, community development, and youth groups. The purpose of the meeting was to share ideas and learn about the different approaches and methods used in various parts of the world. The workshop reconfirmed in our mind the urgent need for a suite of user-oriented methods for assessing progress toward sustainability. It also highlighted the challenge of further improving our methodologies, building partnerships and sharing the learning on a large enough scale to actually make a difference.

This document summarizes our approach to assessing progress toward sustainability and describes the methods we have used to introduce the approach in a range of settings.

This, above all else, has been a learning process. The lessons encapsulated here are the product of the shared ideas and experiences of all members of the international and national teams. Importantly, we owe a special debt to the local communities and partners with whom we have worked, for their patience, candour, hospitality, humour, and insights. Without them, the learning would not have been possible.

We are particularly grateful to Terry Smutylo and David Brooks of IDRC for their support and encouragement, and to Fred Carden of IDRC who worked alongside the international team in the development of the approach. His advice and guidance on the project were invaluable. The experience of working with IDRC as a development agency has been of the highest order. Their support for action research and learning has given us the time and space to develop and test ideas, and to learn. We are convinced that our work is stronger as a result, and for this we are grateful to IDRC. We also thank the Swiss Agency for Development Cooperation (SDC) for their contribution to the production of the training materials from this project.

However, only through broadening the network of interest in practical methods and tools for assessing sustainability will we collectively be able to assist decision makers, communities and individuals who are striving to improve their lives and environments. We invite organisations and individuals to further test and develop the methods and tools outlined in this report, and to send us their comments. We also welcome collaboration with organisations in further applying the methods in the field.

Members of the international assessment team and the local strategy teams continue to develop the approach, methods and tools in new applications and settings throughout the world, including linking national and local level assessments, assessing sustainabiltiy in the urban context, and at regional level.

For more information about IUCN's work on assessing substainability, please contact us at IUCN Headquarters in Switzerland.

For specific information about the use of these methods and the pilot country work please contact members of the International Team and the Pilot Country Teams listed in the back of this report.

To order more copies of these training materials please contact:

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Thank you for your interest in our work on Assessing Progress Toward Sustainability.

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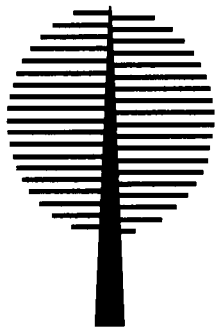


Introduction

The need for assessment

As a starting point, IUCN and the International Assessment Team recognized that assessment — the combination of monitoring, evaluation and diagnosis — is needed to achieve sustainable development goals. Action and reflection are seen by the team as part of a cycle in which assessment guides action and action informs assessment.

The Team recognized that the ongoing debate on what sustainable development is and is not could be assisted by communities and institutions who can determine themselves the benchmarks of changes in their environment and livelihoods.

To learn as they act, and thereby to act more effectively, organisations — governments, NGOs, communities, corporations — need to develop a culture of assessment. This entails regularly undertaking three kinds of assessment:

- **System assessment.** An assessment of the human and ecological system and their interactions. This may be at any scale (How is the world changing? How do we measure change? Are we making progress? Can we sustain progress? What are the implications?)
- **Project assessment.** An assessment of the conduct and results of a project or other set of activities. (Did the project have the desired effect? If not why not? What are out assumptions about our actions?)
- **Self-assessment.** An internal assessment by an organisation or group of people. (What are our goals, and why? Are we achieving them? Are we organised to achieve them?)

System assessment is aided by self-assessment; that is, an internal process of reflection by the group assessing the human and ecological system. Project assessment is aided by an understanding of the system (requiring a system

assessment) and is best carried out by a reflective organisation (requiring a self-assessment).

Given the complexities and difficulties of sustainable development, organisations with the goal of sustainable development have a particular need to do all three types of assessment. However, few do so. A major constraint has been the paucity of assessment methods that could be used under a variety of conditions at various levels, from local to international.

Purpose and aim

The purpose of our work is to develop and test a practical approach for assessing progress toward sustainability. The aim was to translate this approach into a set of methods that would be applicable in many places at the local, regional and national levels.

To ensure that the approach and the methods were both useful and useable in actual decision making processes, the International Assessment Team collaborated with national teams working on local strategies for sustainability in Colombia, Zimbabwe, and India. The choice of these three countries — one each in Latin America, Africa and Asia — provided the project with a breadth of experience in testing the various methods.

- **Colombia** — the monitoring and evaluation unit of the Fundación Pro-Sierra Nevada de Santa Marta: Natalia Ortiz, Hernando Sanchez.
- **Zimbabwe** — The IUCN assessment team in Zimbabwe: Sam Chimbuya, Carmel Lue-Mbizvo; and the core District Environmental Action Plan team in Zimbabwe: Elliot Mhaka, Cephas Chidenga, Joseph Chizororo, Peter Gambara, Davison Haukozi, Zii Masiye, John Mbetu, Constantine Mushure, Aaron Tshabangu, Unity Tshabangu.

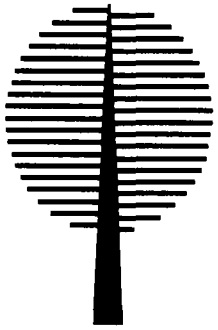
- **India** — The Development Alternatives team working on district level planning with communities and officials in Tumkur district, Karnataka State, India: C. Ashok Kumar, Vijay Pillai, Subash Marcus, George C. Varughese.

The International Assessment Team was in itself part of the experiment of Phase I. Previous attempts at coming to grips with M&E and questions of sustainability had involved disciplines which were largely limited to the technical aspects of natural resource management as well as measurement and appraisal. Conventionally development workers and communications specialists were not part of this group. Yet it was precisely the skills involved in communication and assessment of the problems that we felt were missing from previous attempts and the conventional approaches to assessment and evaluation.

The International Assessment Team acts as both a think-tank group focusing on the conceptual challenge of assessing sustainability, as well as a catalyst for action research with field teams. The Team first began by preparing a conceptual outline that could be easily adapted by the National Teams involved in local development and testing.

International and National Team members worked together to flesh out the concept, develop applications, test the applications in the field, monitor and evaluate the results, and produce and revise communication and training materials.

The International Team continues to play an important role in the further development and testing of the approach along with national and local teams.



Our Approach to Assessing Sustainability

Our hypothesis

In undertaking our work on assessing sustainablity, we identifed the following hypothesis:

The world is in a crisis of unsustainability: not achieving wellbeing for all people, yet degrading and destroying the ecosystem. Human behaviour is the main cause of this crisis and the only source of its solution. The ecosystem can not solve our problems for us. We need to understand which human behaviours are problematic and the motivations behind such behaviour.

The health, wealth and quality of life of people are inextricably tied to the diversity, productivity and quality of the ecosystem of which they are a part. Consequently, sustainability depends on improving and maintaining the wellbeing of people and the ecosystem together.

A constant tension exists between the needs of people and the ecosystem and between different groups of people. These tensions must be addressed if we are to develop combinations of human and ecosystem wellbeing that will eventually prove to be sustainable.

No one knows what these combinations of wellbeing are or how to achieve them. Progress depends on recognizing our ignorance and uncertainty, and founding our actions on questions and learning — through groups of people reflecting and acting in their communities.

What we mean by assessment

We consider diagnosis, monitoring and evaluation to be the three components of assessment. Action and reflection is a continuous cycle in which action is consciously seen as an instrument of reflection – each action is an experiment. Diagnosis explains why the action is necessary. Monitoring

follows its progress. Evaluation draws conclusions about both progress and the outcome.

Regardless of the goal, assessment is needed to achieve it. Action and reflection are part of a cycle in which assessment guides action and action informs assessment.

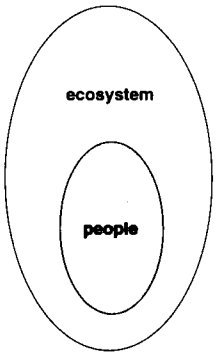
Assessment enables people to define what they mean by sustainable development, to articulate sustainable development objectives, and to track their progress in achieving those objectives.

Approach

Our approach to assessing progress toward sustainable development has two key features.

First, it treats people and the ecosystem together as equally important. People are an integral part of the ecosystem (Figure 1). The wellbeing of one is bound up in the wellbeing of the other. It follows that sustainable development entails improving and maintaining the wellbeing of both.

Figure 1. The Egg of Sustainability



Human societies are an integral part of the surrounding ecosystem. They can be sustainable only of both the human condition and the condition of the ecosystem are good or improving.

The second feature of the approach is that it fosters questioning. Only when we know what questions we are trying to answer can we find indicators and other tools to help us. The more an assessment method requires users to question their assumptions and expose their judgments to scrutiny, the more robust the method will be.

Basic questions for developing an understanding of the system are:

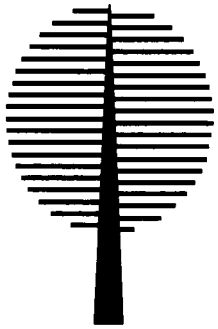
- what are the conditions of people and the ecosystem?
- what is the nature of the interactions between people and the ecosystem?
- what motivates people to do what they do?
- what actions should people take to improve both their situation and that of the ecosystem?
- how can these actions be taken?
- how would people know whether things are getting better or worse?

Armed with these broad questions, groups of people — whether they be village communities, local development institutions, scientists, academics, or government planners at the national or regional levels — can start to formulate programmes of action and reflection. Such action and reflection will result in better focused and more locally relevant questions.

Box 1: Starting With Questions

Starting with the questions can take many forms at different levels:

- working in a participatory manner with communities to identify their own questions about their future.
- organisations developing the capacity to frame and answer their own questions and to help others do the same.
- helping different actors in a situation understand each other's perspectives of the same reality.
- government agencies and other actors collaborating on a national assessment of progress toward sustainability.
- designing projects so that they ask questions to help assess the system as well as the project.
- seeing clearer more focused questions as a valuable product of diagnosis and evaluation.



Summary of Methods, Tools and Applications

Methods

This project has developed and tested methods for all three types of assessment: system, self, and project:

System assessment

Participatory and Reflective Analytical Mapping (PRAM) is a method to help planners, field workers and researchers reflect on a system from an early stage and thereby assist in identifying priority areas for action and research. PRAM can be used to assess any region, from a village to a continent.

Assessing and Planning Rural Sustainability is designed for use by field teams and rural communities working together. It is divided into two stages: assessing rural sustainability; and planning action for rural sustainability. It uses and adapts well known participatory tools for community participation.

System Analysis and Planning is a method of assessing human and ecosystem wellbeing and institutional strengths and limitations. It includes identification of priorities and options, design of development strategies and action plans, and formulation of an implementation and monitoring framework. A supplementary method, *Strategic Negotiation for Community Action*, is used to develop a consensus on the priorities and actions among local communities and other key stakeholders involved.

Self assessment

Systematic Analysis of Experience (SANE) provides a framework to recover institutional memory and learning through a process of retrieval, analysis and documentation of past experience of organisations and projects.

Development of Reflective Capacity is designed to help an organisation develop a capacity for reflection by clarifying its mission, analyzing what makes an institution reflective, and then restructuring accordingly.

Institutional Implementation Capacity Assessment helps organisations evaluate their capacity to carry out their mission and projects. The method contrasts the demands on the organisation generated by its mission and objectives with its capacity to supply them.

Project assessment

Logical Framework Analysis (LFA)-Based Project Assessment is a method of project monitoring and evaluation for use within the planning framework of reflective organisations.

Tools

The project has also contributed to the development of several tools:

Map Maker is user-friendly software for making maps and displaying data on maps. It has been designed independently by a member of the International Team for use by non-experts. Map Maker retains a sophisticated capacity for complex analyses of varied data while retaining a practical capacity for use in the field on any laptop computer with Windows.

The *Barometer of Sustainability* is a tool for measuring and combining indicators of human and ecosystem wellbeing and progress toward sustainability. A programme to score and link the data generated by the Barometer with Map Maker is currently being developed.

Questions of Survival is a set of questions about people's relations with each other and the ecosystem. Its main purpose is to support self assessment, but

it is also useful as an introduction to identifying changes in ecosystem and human wellbeing in system assessment.

Indicators are essential and common to all assessment methods. Our approach is to encourage users to choose their own indicators on the basis of their understanding of the system and their goal. One of the booklets in this series, Community-based Indicators, describes how to help communities develop their own indicator set.

Applications of the approach, methods and tools

In Phase I, the project has applied the approach, methods and tools for all three types of assessment: system, self and project.

System assessment

PRAM was developed and tested as part of the Sierra Nevada Conservation Strategy, prepared by the Colombian NGO, Fundación Pro-Sierra Nevada de Santa Marta, with support from the German development assistance agency GTZ. The method is now in the early stages of its application by the Fundación. In developing and testing this method a number of training sessions were held in the use of Map Maker in Colombia and Costa Rica. People trained in the use of mapping and of this method are now available in the region.

Assessing and Planning Rural Sustainability was jointly developed and tested by the International Assessment Team members and National and District Teams working on District Environmental Actions Plans (DEAPs) in Zimbabwe. The DEAPs are led by the Department of Natural Resources in the Ministry of Environment and Tourism with support from the United Nations Development Programme and IUCN. The development of people at national, district and village levels trained in sustainability assessment is an important result of the and use of this method in Zimbabwe.

Summary

The methods of System Analysis and Planning and Strategic Negotiation for Community Action were developed and tested as part of a sustainable development action plan for Chiknayakanhalli *Taluk*, a division of Tumkur District, Karnataka State, India. The development of the action plan was led by the Indian NGO, Development Alternatives, and is part of the Government of India's Integrated Mission for Sustainable Development (IMSD). Both methods were used in the development of the action plan — which has now been submitted to IMSD — and have also been used as part of other projects being undertaken by Development Alternatives in Tumkur district.

Self-assessment

The project developed the three methods of self-assessment, and tested one of them (Development of Reflective Capacity), with the Fundación Pro Sierra Nevada de Santa Marta. It also helped to establish a monitoring and evaluation unit in the Fundación. Self-assessment helped the Fundación to realize that assessment was central to its work rather than an add-on activity. It also led to significant restructuring: reorganisation of the working teams; a new system for more participatory decision-making; a shared concept of the mission and goals; and better integration of the organisation's different activities.

Project assessment

The project developed and tested the LFA-based Project Assessment methods with the monitoring and evaluation unit of the Fundación Pro Sierra Nevada de Santa Marta. This method is now being applied to the projects of the Fundación.

Adoption of the approach by others

In addition to the above applications other organisations and individuals have started adopting the various methods and tools developed as part of this project. These examples demonstrate the broad applicability of this approach and its utility in the assessment of national and provincial sustainability, sectoral assessment, and regional programme assessment.

The IUCN project on sustainable use of wildlife in Central America is testing the Barometer as a tool for assessing the impact of projects on human and ecosystem wellbeing. The IUCN has also adopted LFA-based Project Assessment to monitor its programme in Central America and Mexico. In addition, the European Community-funded regional project, Frontera Agricola, is using PRAM to monitor the dynamics of the agricultural frontier in Central America. Similarly, CIET International is testing the Barometer in their Sentinel Site Surveillance Project funded by the Ecosystem Health Programme Initiative of IDRC. Testing sites include assessments of human health and ecosystem condition in Costa Rica, Mexico, Nepal and Uganda.

The project used the Barometer of Sustainability in an experimental assessment of the sustainability of Zimbabwe. The assessment was very preliminary but demonstrated the tool's potential. The approach and the Barometer are now being used in The Wellbeing of Nations, a forthcoming book by a member of the International Assessment Team which will be co-published by IDRC. The book provides the first assessment of the well being and sustainability of 180 countries. Moreover, the approach and the Barometer were used in an assessment of the sustainability of British Columbia (Canada) by the province's Commission on Resources and Environment.

The Amazonia Programme and the Conservation of Andean Natural Forests Programme (PROBONA) — two regional programmes funded by the Swiss Agency for Development Cooperation (DDA) — have adopted the project's approach and a combination of its methods: PRAM for system assessment; Systematic Analysis of Experience and Institutional Capacity Assessment for self-assessment; and LFA-based Project Assessment for project assessment.

In India, the Mussoorie Gramin Vikas Samiti, a grassroots NGO, has applied a number of the tools and methods developed by the project. They have been particularly active in applying and adapting the tools and methods relating to self-assessment and have also translated some of the project material into local languages.

Dissemination and communication

The approach, methods and tools have been described in this series of booklets on Assessing Progress toward Sustainability. As well as this overview, the series includes the following:

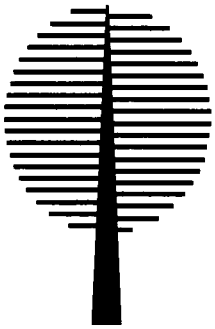
- *Participatory and Reflective Analytical Mapping;*
- *Assessing Rural Sustainability;*
- *Planning Action for Rural Sustainability;*
- *Reflective Institutions;*
- *Barometer of Sustainability;*
- *Questions of Survival;* and
- *Community-based Indicators*

Other publications on Systematic Analysis of Experience (SANE) and LFA-based Assessment are in draft form in Spanish. Resources and time allowing, these will be translated and added to the list of publications of methods. A number of methods used in India and described in three booklets — Strategic Negotiation, System Assessment and Mapping — are currently in draft form and will also be added to the project's publications list.

Extensive efforts have been undertaken to share the approach and experience of the project at the international and national levels. Some examples include:

- An "Ideas Workshop" in January 1996. This involved 20 organisations working on aspects of assessment and representing a wide range of perspectives from around the world: development field work, institutional change, community development, and youth groups. The purpose of the meeting was to share ideas and learn about the different approaches and methods used in various parts of the world.
- Regional dissemination workshops for M&A practitioners in Asia (Nepal), South America (Peru), and Africa (Kenya) in 1996 to share the learning of the project at the end of the first phase. Each workshop involved approximately 35 people from each region, lasted three days and demonstrated the methods and approach.
- Workshop presentations on strategies for sustainability and assessing sustainability, World Conservation Congress, Montreal, October 1996.
- Workshop on the project's approach and methods at the Pakistan Annual Sustainable Development Conference organised by the Ministry of Environment and Forests, Government of Pakistan and the Sustainable Development Policy Institute, in Islamabad, August 1996.
- Workshop on monitoring and evaluation at the NGO Forum at the UN Habitat II Conference in Istanbul, June 1996.
- Participation in the Expert Group on Indicators of Sustainable Development that advises the UN Commission on Sustainable Development. (CSD)
- Participation in workshops on assessing sustainable development organised by Scientific Committee on Problems of the Environment (SCOPE). The World Bank, the International Institute for Sustainable Development (IISD), and the New Economics Foundation, and the recent Bellagio Workshop on Performance Measurement organised by IISD Canada, and at an Organization for Economic Cooperation and Development (OECD)/Development Assisstance Committee (DAC) Conference on Indicators.

- Contacts with the Food and Agriculture Organisation of the United Nations (FAO), the United Nations Children's Fund (UNICEF), the United Nations Development Programme (UNDP), the World Health Organisation (WHO), World Resources Institute (WRI).
- Establishment of informal networks of practitioners aided by team members in Latin America, Africa and Asia. In India, in particular, a very large number of community organisations, NGOs and academic institutions have been sensitized to the approach and methods developed by the project. Some have taken the initiative of applying methods on their own. Similar contacts have been made with a number of development projects and institutions in Latin America.
- The assessment approach has also been a major feature of various regional training workshops on strategies for sustainability in Southern Africa involving representatives from six countries, and Latin America involving representatives from ten countries;



Methods of System Assessment

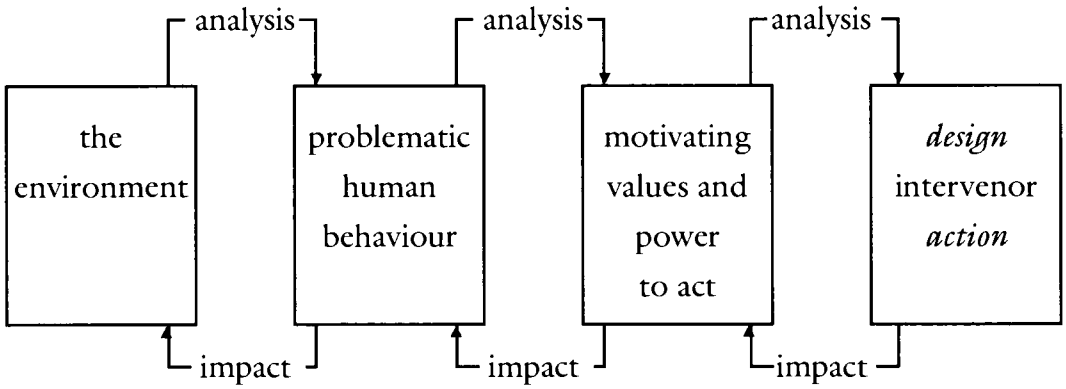
Participatory and Reflective Analytical Mapping (PRAM)

Participatory and Reflective Analytical Mapping (PRAM) is a method to help planners, field workers, and researchers reflect on a system from an early stage and thereby assist in identifying priority areas for action and research. PRAM can be used to assess any spatial region from a continent to a village.

PRAM may be used to analyze any kind of continuously varying data with any sort of underlying model. In the context of assessing progress toward sustainability the model proposed is built on the following ideas:

- **A holistic view combined with focused action.** While the complex interactions among issues must be appreciated, the practical need is to identify concrete actions with a direct impact on the central issue. This calls for complex analysis with simple actions.
- **The need to foster participatory reflection.** There is a need not only to collect data but also to reflect on one's own actions and ability to act, and to assist understanding of the context in a participatory setting. Reflection is required to determine issues and indicators, choose levels of complexity and methods of measurement and analysis. A participatory and reflective process, rather than just the maps, is the core output of PRAM.
- **Using maps to link theory to reality**. Maps are the vehicle to link reflection and concrete reality.
- **Focus on the conservation of natural resources.** In this work we have chosen to focus on the conservation of natural resources as the key issue of sustainability, but other focuses such as health or education could be chosen.
- **Human behaviour as the cause of unsustainability.** Since unsustainability is caused by the actions of people, we need to understand what human behaviour is problematic and the motivations behind the behaviour.

Figure 2. The Chain of Influence



- **Influencing human behaviour.** We cannot in any significant way influence the environment directly. Our medium is actions that influence the motivation behind human behaviour which in turn influences the environment.
- **Tensions between the needs of people and the environment, and between different people.** Only by addressing the tensions that exist between people and the environment, and between different groups of people, will we have any hope of finding a sustainable balance between these conflicting pressures.
- **Social and ecological dimensions.** The choice of dimensions (issues or variables) within the model attempts to reflect both the need to monitor the state of the environment and describe the tensions influencing that state.

The PRAM method stresses four points:

- **Expert groups.** A participatory approach in which "expert" groups are the key sources of data. The expertise in question would depend on the context; these "experts" might range from scientists to development scholars to field workers to long distance truck drivers to village women, depending on the issue under consideration.
- **Integrated and transparent model.** A range of disparate factors are integrated into a single measure. The weightings and assumptions of the model are transparent, however, so that the components or dimensions can be disaggregated easily. Whichever model is used, social and environmental issues must be considered simultaneously.
- **A spatial hierarchy.** The use of a hierarchy of levels in which each level is divided into cells which are themselves the next level down; e.g., country, province, landscape, village, and farm.
- **Quick and simple maps.** The use of simple, rapidly produced maps as tools for analysis, discussion, consensus, communication, and project documentation.

The method involves seven stages:

- **Identify level.** Identify the area or region (the level of complexity) to be assessed; this could be anything from a continent to a village.
- **Identify cells.** Identify the spatial cells of analysis. Typically, these should be one level down from the overall area to be assessed. In other words, a continent would normally be divided into cells corresponding to countries, while a village is divided into farms. If the cell is too small relative to the area the grain becomes too fine and the overall picture cannot be grasped.
- **Identify actors.** Identify the social agents or stakeholders involved in the area being examined.

- **Measure.** Assess both the state and the trend of the various dimensions being assessed for each cell. The nature of the measurement will vary but for the purpose of rapid mapping two key techniques are used: a) desk study of existing data; and b) expert group meetings.
- **Apply the model.** Use the model to combine the measurements into a value for each dimensions and to aggregate the dimensions into a single value.
- **Map.** Map the results, showing both aggregated results and individual dimensions. Where appropriate, average (or sample) data for cells should be used to generate continuous "data surfaces" so that values for areas without hard data may be interpolated. PRAM is predicated on always having a "best guess" for the values of the variables at any point in the area of interest. In this way composite data surfaces may be created from disparate data sets for different variables, some detailed, some crude.
- **Prioritize.** Use the maps to help identify and prioritize action to bring about change and research to fill key data gaps. In setting priorities it is often necessary to work back from data surfaces to extract average values for a cell, since the cell of analysis should also be the grain at which actions are taken.

This cycle of analysis may reveal that one or more of the cells is particularly interesting or problematic. The PRAM method can then be applied to that one cell breaking it down into a finer grain of cells to perform more focused and detailed analysis.

Assessing and Planning Rural Sustainability

This is a participatory method for assessing rural sustainability and planning action which draws on participatory tools for community participation throughout. The method is divided into two stages:

- **Assessing rural sustainability.** Exploring the conditions of the ecosystem and people and preparing for action planning. This stage is intended to help villagers and the strategy team arrive at a common understanding of ecosystem wellbeing, human wellbeing, the need to improve both together, and the need for action to be based on the community's commitment.
- **Planning action for rural sustainability.** This stage has two phases. First the villagers prepare a preliminary action plan. This identifies a few priority issues, actions that the villagers will take to tackle these issues, additional actions they could take with help (such as training, tools or equipment, seed financing), the help that is needed, and the outside support that is required. Then the strategy team returns to conduct a joint assessment with the villagers of the practicality of the plan and the villagers' commitment. At the same time, the villagers and team clarify the hypotheses underlying the plan and develop indicators to assess them and the plan's progress and effectiveness.

Assessing rural sustainability is the first stage of this method and is carried out mostly through intensive field work with villagers. This will normally take about three days. This is preceded by data collection from external sources and by preparatory work to organise the field work. The work during the assessment stage is based on: a) developing a common understanding; and b) the questioning approach.

The method is designed to allow participants to debate and develop an understanding of how the wellbeing of people and the ecosystem are interdependent. The generic questions which form the basis of the overarching assessment approach outlined in this document underlie the various steps and tools used in this method. The key questions during the assessment stage include:

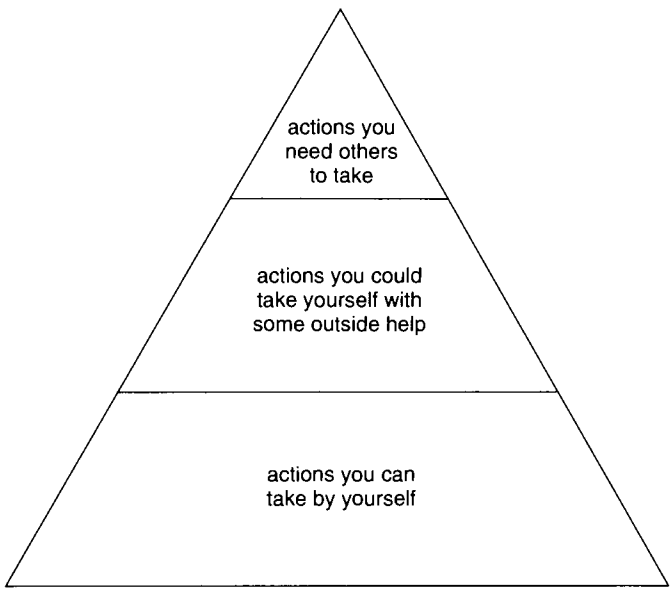
- how are you?
- how is the ecosystem?
- how do people and the ecosystem interact?

The assessment stage consists of steps on assembling external information, before going into the field and in the field.

The team first sets the scene. A game is played to show that sustainable development depends on people learning to do things for themselves. The team explains the project and then uses the Pyramid of Action (Figure 3) to reinforce the need for the community's strategy to be founded on the villagers' own actions. The team introduces the Egg of Sustainability (Figure 1) to get across the idea that people are a part of the ecosystem and that the wellbeing of both people and the ecosystem need to be improved simultaneously.

Next, the team facilitator draws the Barometer of Sustainability (Figure 4), which reinforces this idea and provides the community with a tool for measuring human and ecosystem wellbeing. The villagers define each scale (from bad to good) using their own terms. Afterwards they discuss where they are on each scale (an initial reading of the Barometer) and list the factors that contribute to human and ecosystem wellbeing.

Figure 3. Pyramid of action

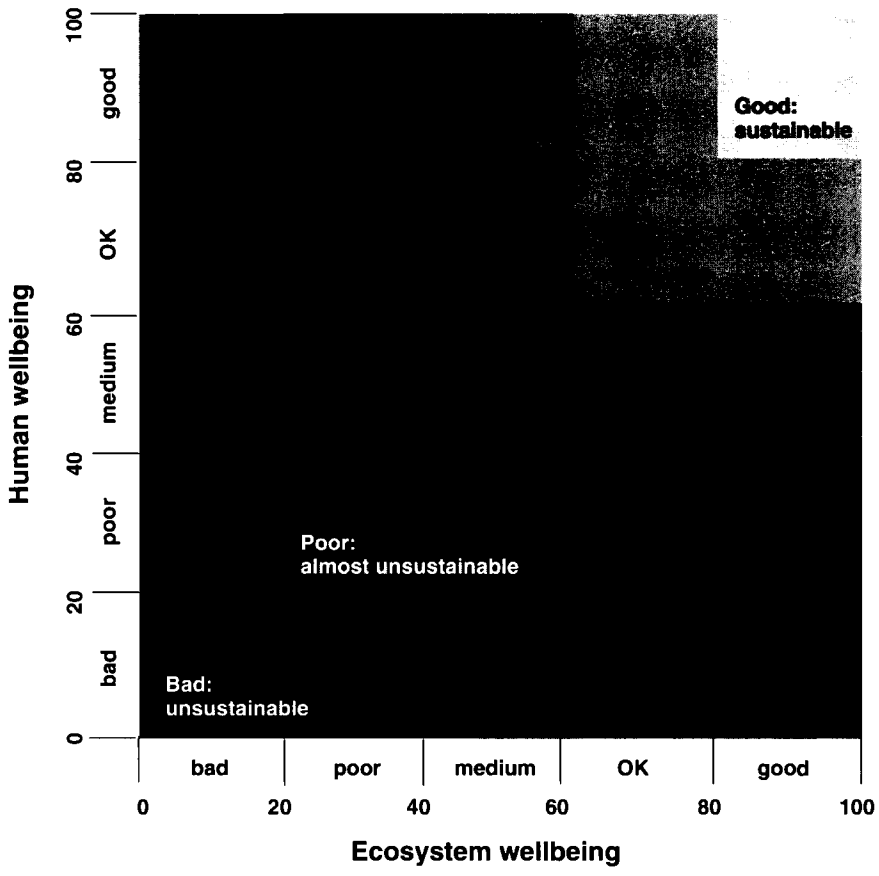


The Pyramid is a visual tool designed to start people thinking about what they can do for themselves; and to reduce expectations of assistance from external agencies and governments.

In the next series of steps, the community explores the condition of the ecosystem. Villagers define components of their ecosystem (e.g., forests, rivers, wetlands, grazing lands, croplands, settlements), and divide into groups to draw past and present maps. Maps and diagrams are vehicles to analyze and show changes in each component: area, condition, diversity of plants and animals, and products and services. Group findings are discussed by the meeting as a whole to try to reach consensus or, failing that, record differences.

This leads to the exploration of the condition of people. The villagers again divide into groups to examine and portray concepts, status and trends of food, income, wealth and poverty, infrastructure, health and population, knowledge, and institutions. Once again, group findings are discussed by the meeting as a whole to try to reach consensus or record differences.

Figure 4. The Barometer of Sustainability (Prescott-Allen, 1995)



The final series of steps prepares the community to work on its own action plan. The meeting revisits the Barometer to see if people want to reassess their positions on the human and ecosystem scales, in light of their assessment of their own condition and the ecosystem condition. Potential ways of improving both conditions are discussed. The team then asks the community to prepare a preliminary action plan to move in the desired direction.

Planning action for rural sustainability is a distinct second stage of this method, even though it is begun by inviting villagers to develop their action plan at the end of the first field visit. This stage is also carried out mostly through intensive field work with villagers using participatory techniques. It is preceded by preparatory work which assesses the feasibility of the villagers' preliminary attempt at an action plan and prepares for implementation by meeting relevant officials in key agencies at the national and local levels. The work during the action planning stage is based on negotiation.

The key questions during the action planning stage include:

- what are the priority problems that need to be tackled to improve the situation of people and the ecosystem?
- what are the causes and effects of those problems?
- what actions should be taken to address the problems and their causes?
- how can these actions be taken?
- how would you know if things are getting better or worse?

The method is designed to facilitate negotiation among the villagers about what they want to do and how it is to be done. The role of the outside support team is to provide a setting in which the different interest groups in the village can participate in making good, informed collective decisions.

This is essentially an argumentative method. The various groups — young or old, men or women, long-standing or resettled populations, different ethnic

groups, etc. — have different interests and may, therefore, prefer different action strategies. These different positions need to be expressed and annotated with relevant information as the various options are identified so that they can be discussed coherently and a mutually acceptable course of action be decided upon.

It is the job of the support team to provide information and a setting in which all the groups can be heard. The method and tools are designed to encourage the expression of different points of view and to facilitate an informed collective assessment of the various strategy proposals. Not all differences may be resolved; however, they are at least presented and understood and the basis of decision becomes transparent.

The purpose of the second stage is to assist the local community in developing an action plan that can be carried out largely through its own efforts. Identifying and seeking commitments for strategic inputs from outside are also part of this plan. The support team is responsible for ensuring that these are feasible and that relevant outside agencies will follow through on the commitments made during the preliminary analysis.

The second stage begins with steps to bridge assessment and action planning. These are followed by steps developing the action plan in the field, preparing for implementation, and follow-up, monitoring and reporting. Preparations require the support team to assess the workability of the villagers' preliminary action plan and to consult with other relevant agencies on the details of its practical implementation. These discussions form the basis of the information which the support team provides to the villagers during negotiation. Preparations also require the support team to report back on its findings from the assessment stage to the villagers and to local authorities. This ensures transparency and involves all concerned in the process of joint decision making.

As with the assessment, the field work with villagers normally takes three days (five hours of public meeting each day, for a total of 15 hours). The villagers review the assessment, agree on priority problems, chart the causes and effects of the priority problems, and decide on actions to deal with the problems and their main causes. Using the Pyramid of Action, the process starts with what the villagers can do themselves, then what they can do with some outside help, and finally the actions they need others to take.

The method and tools are designed to enable the villagers to negotiate a revised and improved version of their preliminary action plan. Once this has been done, the next set of steps deals with the development of indicators. Indicators are a means of assessing the hypotheses underlying the action plan and for monitoring the plan's progress and results. An essential feature is that communities select and design their own indicators. In identifying what needs to be measured based on their own analysis, villagers gain ownership of the process and are likely to use the assessment more effectively. This process is described in the booklet *Community-based Indicators.*

Preparation for implementation includes completing an investment analysis and portfolio for the action plan, analyzing the decisions that government and other external agencies need to take to back the plan, reporting to potential supporters, and arranging funding and policy support.

Both stages of the method — assessing rural sustainability and planning action for rural sustainability — include a variety of tools for community participation. Some are standard for Participatory Rural Appraisal (PRA): e.g., games, mapping, diagramming, wealth ranking, livelihood analysis, trends analysis. Others have been developed as part of this project: the Egg of Sustainability, a simplified Barometer of Sustainability, the Pyramid of Action and *Community-based Indicators.* The underlying principles of the questioning approach and of negotiation using the argumentative approach are applied using dialogue and semi-structured interviewing.

System Analysis and Planning

System Analysis and Planning is a process of designing locally-derived interventions to promote sustainable development. The output of System Analysis and Planning could be a strategy or action plan for sustainable development. This, in turn, provides the framework for initiating implementation activities. The method involves:

- situation analysis and diagnosis;
- identification of priorities and options;
- development of strategies and action plans; and
- implementation and monitoring framework.

Situation analysis and diagnosis is a process of assessing natural resource sustainability, human wellbeing and institutional strengths and limitations. The natural resource themes that could be assessed include: climate, geology, present land use, slope and physiography, soils, surface and groundwater and drainage. These parameters capture the essential aspects of natural resource assessment: present availability (stock); current use levels (flow); quality and diversity (resilience); existing pressures (cause-effect linkages); future potential (opportunities); and sustainable harvests (threshold capacity).

The assessment of human wellbeing begins with a categorization of the community groups (economic and social) to assess the level of fulfillment of basic needs, the strengths and limitations of the local economy, and the levels of development of the different administrative units (e.g., villages) in the region. This assessment should assist in designing specific interventions for the community groups and sub-regions. It can also highlight particular stress factors such as food scarcity, consumption of contaminated water, etc.

The assessment of institutional strengths and limitations considers a variety of institutions in the region: governmental, quasi-governmental, private sector, community groups and nongovernmental.

The next step involves the **identification of priorities and options**. It prioritizes issues that emerge from the situation analysis and identifies options for future action. Prioritization of issues follows the thematic integration of natural resource and human wellbeing issues. Priorities are based on socially determined trade-offs related to the severity of the problem, opportunities available in the future, and the pragmatic need to ensure successful implementation. To sustain the active involvement of community groups, it is crucial that interventions result in demonstrable positive impacts.

Development of strategies and action plans builds upon the options identified above. Development strategies provide a strategic framework for pushing the development trajectory towards a more sustainable path. Action plans outline the details of the interventions to be taken up with the necessary technical, social and economic appraisal.

Finally, a preferred **implementation and monitoring framework** is set out. This includes the identification of implementing agencies and allocation of specific responsibilities, time schedules and financial outlays. The monitoring framework includes systems and indicators for monitoring at project and programme levels. A sound framework would also provide a system of recording experiences during implementation to serve as feedback for midcourse and future modifications.

The System Analysis and Planning method uses a variety of tools. Techniques used in Participatory Rural Appraisal (PRA, including focused group discussions, transects and cause-effect linkages, can be quite effective. In addition, strategic negotiation and mapping can significantly strengthen the process of System Analysis and Planning. It is also recommended that the Egg of Sustainability (Figure 1), the Barometer of Sustainability (Figure 4) and the Pyramid of Action (Figure 3) be used during community interaction. If the natural resource assessment is at a sufficiently large scale — e.g. the district or province level — the use of satellite imagery can result in substantial savings in cost and time and provide reliable information.

Unlike some other planning methodologies, System Analysis and Planning is field-driven and provides sufficient space for incorporating pragmatic and socially acceptable interventions. Social and institutional acceptability is considered to be as important a criterion as technical efficiency. The strength of the method comes from:

- ensuring a multi-sectoral/integrated approach, without completely disregarding the existing institutional framework;
- facilitating greater involvement of primary and secondary stakeholders through a process of consultation;
- adopting a combination of local community knowledge with state-of-the-art tools for decision making;
- working from a set of "scientifically best" options to "socially acceptable" ones through a consultative and consensus-building process;
- cultivating a locale-specific understanding of issues of sustainable development;
- building a sound database to help monitor programme impact and future planning; and
- integrating local development initiatives with mainstream efforts at regional levels.

Strategic Negotiation for Community Action

Strategic Negotiation is a method used in national and international business and policy transactions. While this process is implicit in many community-based development projects, it is yet to be widely understood or explicitly used by development planners and practitioners.

As part of this project, existing knowledge about strategic negotiation was adapted for use in situations of community planning and action to yield the method, Strategic Negotiation for Community Action.

The method serves two essential purposes:

- to arrive at a consensus on optimal options that can address a set of sustainable development issues; and
- to finalize agreements regarding the responsibilities of key stakeholders to begin specific activities.

Strategic Negotiation is a process of dialogue and is best carried out when the various parties have similar levels of information, communication skills, and power. In reality, however, this is seldom the case. Thus, the overall process often tends to be evolutionary: involving a series of dialogues and gradually moving from information sharing to informed dialogue to strategic negotiation. During this series of dialogues the negotiators move from being interested, to being motivated, to making guarantees. What makes Strategic Negotiation different from either information sharing or informed dialogue is that it involves making, and implementing, commitments and ensuring accountability. The test of the method, therefore, is not merely in the commitments made, but in the actions implemented.

Strategic Negotiation for Community Action involves four basic steps:

- **information sharing** — all sides share information and develop a shared understanding of the objectives of the negotiation;
- **perceptions assessment** — all sides assess each other's perceptions and highlight their principal considerations and constraints;
- **consensus building** — this involves a series of discussions and compromises on the part of all parties. It is advisable for all sides to retreat at this point and study the emerging consensus individually before reconvening for final agreements; and
- **agreement finalization** — the consensus is translated into concrete commitments, explicit allocation of responsibilities and defined mechanisms for monitoring and accountability. These commitments may be recorded in a form that all stakeholders are comfortable with.

Although a full-blown process of Strategic Negotiation for Community Action can be a multipartite arrangement involving several stakeholders, it is advisable to start the process with a bipartite dialogue. This can be between primary and secondary stakeholders or between an external and a stakeholder group. The external group can serve the twin purposes of acting as the principal negotiator on behalf of project proponents and as a facilitator of the process.

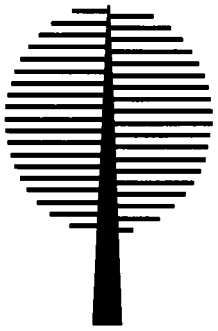
The process of Strategic Negotiation for Community Action is most effective where a set of enabling conditions already exists It is not advisable to use it in all situations. Here are some important factors to keep in mind while deciding whether to use the method.

- Strategic Negotiation for Community Action is more likely to be useful when the dialogue is initiated with formal institutions, rather than with informal groups. This is because Strategic Negotiation involves making commitments and being held accountable for them. Formal groups are more likely to be able to do this. With informal groups, other forms of community interaction could be used. The information thus collected can assist the process of negotiation with formal groups.
- Strategic Negotiation for Community Action is most effective when used in a context comprising all stages of the planning/implementation/ assessment process.
- The method is most effective in homogeneous groups, and should be used in conjunction with other methods for heterogeneous groups.

In addition, those undertaking the process must also keep in mind the ethical issues associated with such interaction. It is important for all sides to make commitments which are reasonable and can be realistically fulfilled. All sides should provide equal access to information and keep the community interests uppermost. Most importantly, it is critical to ensure that project proponents do not raise unjustified expectations among community groups, and the commitments that are made are, in fact, delivered.

Strategic Negotiation for Community Action has a number of advantages:

- while many methods extract information from community groups, Strategic Negotiation has the potential to carry out deeper analyses of issues and take account of the constraints of various stakeholders;
- it can help forge consensus about future options through dialogue and strategic trades between relevant parties;
- it finalizes acceptable agreements on the responsibilities of concerned parties to take up specific activities;
- it promotes ownership of the programme among stakeholders; and
- it can increase accountability in the development sector and in turn optimize programme impact.



Methods of Self Assessment

Systematic Analysis of Experience (SANE)

Most activities carried out by institutions or projects are hypothesis tests. Plans, strategies and policies are based on theories about which actions are likely to lead to which results — outcomes are expected, not guaranteed. What we really have, therefore, are explicit or implicit hypotheses which may, or may not, be validated in practice depending on whether expected outcomes are achieved.

A simple example should illustrate the point. A community meeting is planned to meet villagers, who are invited to participate using radio messages and prominently displayed posters in several parts of the village. The project staff expects to meet the villagers at the established venue. Is there any hypothesis here? Yes, and a relevant one. The hypothesis is that people in this village have radios to listen to, that they can read posters, and that message presentation and media selection are appealing enough to make people want to attend the meeting. If these hypotheses are correct, many people will show up; if not, the meeting room will be empty.

As projects and institutions start to search explicitly for the hypotheses underlying their activities they realize that situations where the hypothesis is, in fact, not substantiated by reality are quite common at every level of development work. With time, field workers amass rich experience of what does or does not work in particular settings.

This experience is, however, usually not explicitly recorded and, therefore, does not necessarily convert to learning. Reporting and monitoring mechanisms tend to focus on the achievement of goals and the disbursement of finances. Field workers, who are the principal repositories of this experience, are usually not provided either the time or the forums for sharing their learning. As projects end or staff moves, the experience is lost with them, condemning institutions to rediscover it each time.

Systematic Analysis of Experience is a simple method designed to plug this "learning loss" by providing a framework to recover, analyze, record and learn from the experience of institutions and projects. Its purposes are:

- to learn from experience — both successes and failures — by relating it to the project's or institution's objectives, hypotheses, and standard operating procedures;
- to foster reflection within projects and institutions;
- to improve project reporting, making it more meaningful for the project staff, funding agencies and other related institutions and projects; and
- to facilitate a more meaningful exchange of experience-based learning within and between institutions and projects.

Procedurally, the method is quite simple. It must be organised as a group activity involving the project/institution staff and other relevant actors. Generally speaking, the duration of the process will depend on the individual institution or project and the experience being analyzed. Experience suggests that a week can be required to systematize the learning in projects that have been running for five to six years. Wherever possible, it is preferable to establish a system of periodic meetings for this purpose, rather than intensive sporadic events.

The activity is organised in the following way.

- **Tell the story.** Ask a staff person to relate the project/institutional experience in the form of a story, while a facilitator records it on a flip chart. Participants are encouraged to contribute, to refine, dispute, add to and delete from this story. This process usually leads to lively discussions and starts a process of experience sharing. By the end of this step the flip chart should record a consensus version of the story. Information gaps and disagreements should also be recorded.

- **Identify turning points.** In analyzing the story it should be possible to find events or decisions that can be considered turning points. Very often, these will be points where activities were initiated or dropped, methods modified, staff changed, etc.
- **Identify phases of experience.** The period between successive turning points may be called a phase. It is sometimes useful to name each phase according to its principal distinguishing feature.
- **Phase analysis.** An analysis of the main issues must be carried out for each phase. The selection of issues will depend on the project/institution, but a general list to begin with might include: objectives, hypotheses, activities, methods, tools, and gaps. Some aspects to be analyzed within these issues are actors, participation, type and frequency of use of methods and tools, successes and failures.
- **Analysis.** This step begins with a comparison of phases to identify the changes and the causes and consequences of the changes. It then proceeds to identify trends and to highlight those which mark the evolution of ideas and hypotheses.
- **Lessons learned.** From the above analysis it is easy to extract a synthesis of lessons learned in terms of what can be done and what should be avoided.
- **Communication.** The details of the process, the analysis, and the lessons learned should be recorded candidly and circulated to the project/institution staff, donors, partners and other institutions/projects that might benefit from the learning.

Development of Reflective Capacity

This self-assessment methodology assists institutions, organisations and communities to address fundamental questions such as: How do we know what is happening around us (system assessment)? How do we know what to do about it (mission, goals, actions)? How do we track progress and learn from our actions (reflection)?

This method considers the presence of a local problem-solving institution with a long-term commitment to the geographic region as the crucial element in developing and implementing effective strategies for sustainability.

When working with an existing institution, the development of a reflective capacity is seen as having three stages:

Stage 1: Clarifying the mission. This first stage explores the questions which an institution needs to answer if it is to develop a coherent view on sustainability. To facilitate this discussion, a poster and booklet (*Questions of Survival*) were developed as a means of raising a set of seven generic questions that apply to a wide range of situations and scales:

- change — in what way is your environment changing?
- problems — which problems have resulted from these changes and which have always been there?
- victim — how is your environment being affected by others in ways that seem out of your control?
- culprit — how are you affecting other peoples lives?
- knowledge — who knows what about your environment?
- community — who else shares your problems or has similar ones?
- values — what are your aspirations?

This process of asking questions about the wellbeing of the ecological and human systems will reveal valuable structural characteristics of the organisation and operation of the institution. Very often, the important implication of these structural characteristics will be that most organisations are not equipped to reflect and act upon their reflections.

Stage 2: What makes an institution reflective? Once the need for considering the institutional structure has been demonstrated, the discussion moves on to a consideration of the characteristics that can make an

institution reflective. This discussion revolves around the booklet *Reflective Institutions,* which sets out six key characteristics:

- feedback — experience from action informs and changes policy;
- hypothesis-led planning — projects are designed to test and improve hypotheses;
- strong horizontal linkages — communication among disciplines, departments and institutions is encouraged;
- explicit vision of past present and future — institutional memory, understanding, and objectives are shared and debated;
- a tendency to breed reflective institutions — beneficiaries and participants are encouraged to take control of their own projects; and
- the constructive identification of failure — errors and failures are seen as important resources for learning.

Stage 3: Restructuring. The discussion on what makes an institution reflective is meant to demonstrate that reflective activities such as diagnosis, monitoring and evaluation cannot simply be added on. They require an institutional commitment to developing a reflective institutional culture. Reflection is likely to be sustained only when time and space are set aside for this specific purpose and when procedures demand reflection.

While the nature of any restructuring will depend on the existing state of the institution, this project's experience in developing and testing this method suggests ten necessary structural changes that most institutions need to pass through:

- a more horizontal structure to allow participation in decision-making;
- small multi-disciplinary workgroups rather than isolated professionals;
- periodic focused meetings to create spaces for reflection;
- a diagnosis, monitoring and evaluation unit within the organisation;
- making explicit the implicit hypotheses in existing projects and programmes;

- developing a planning process that is led by explicit hypotheses;
- constructive evaluation that learns from failure and feeds back into design;
- development of a shared explicit vision of past, present and future;
- helping partner groups, such as community groups, become more reflective; and
- building self-evaluation into all activities rather than seeing evaluation as a separate activity.

Institutional Implementation Capacity Assessment

A key characteristic of reflective institutions is self-assessment of their capacity to achieve their mission and goals and implement their projects. In many cases, the inability to correctly assess implementation capacity leads to some degree of institutional failure. The cost of the resulting problems, frustrations and unfulfilled expectations are high not only for the institution in question but also for it donors, partners and beneficiaries.

Institutional Implementation Capacity Assessment is a method developed to assist institutions to evaluate their own capacity to carry out their missions and projects. The basic principle behind this method is to contrast the demands on the institution generated by its objectives and mission and its institutional capacity to supply them.

Demand Analysis. The demand analysis can be addressed by asking: What is the institution required to do to fulfill its institutional mission and its project objectives? The path to answering this question would differ slightly depending on whether it is the demands of the institutional mission or project objectives that need to be determined. In each case the first requirement is an explicit formulation of the hypotheses underlying the institutional mission or project objectives. This is done by contrasting the mission or objective with current and planned activities. In the case of projects this is easier to do if the

logical framework analysis (LFA) method has been properly used to plan the project. This step can benefit enormously if a context analysis has been undertaken previously using a method such as Participatory and Reflective Analytical Mapping (PRAM).

Once the hypotheses have been made explicit, the next step is to verify them in the light of context analysis, to evaluate their relevance, and to determine if the available resources can be redirected to more relevant activities.

Such an exercise will often result in a reformulation — at more modest levels — of the institutional mission or project objectives. Alternatively, it could result in the addition of new, or redesigned, activities that aim to increase the coherence among hypotheses, activities and missions or objectives.

The final step is the identification of activities necessary to achieve the institutional mission or project objective and the resources required to build such capacity. Capacity building may be required in such areas as:

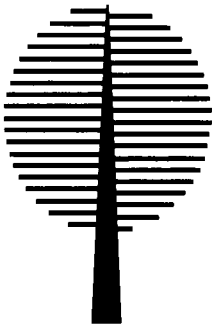
- human resources;
- operational needs, including equipment and facilities;
- financial resources;
- institutional credibility;
- institutional clout;
- institutional experience; and
- reflective capacity.

Supply Analysis. The supply analysis can essentially be addressed by asking: What can the institution do? This question can be answered through a number of different processes. Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis is one approach that is well documented and understood and worked quite well in this project. The steps following such an analysis will be similar to those laid out for the demand analysis.

Balancing the Equation. Once the demand and supply analyses are completed, the two sets of information need to be contrasted and compared. This can lead to one of three conclusions:

- institutional or project demands exceed institutional implementation capacity (supply);
- institutional implementation capacity (supply) exceeds institutional or project demands; or
- demand and supply are in balance.

The first of these situations is by far the most likely. The second is the most rare. Either should be the trigger for a new cycle of analysis. The first case would lead to a revision of the institutional mission or project objectives or the addition of new activities. The second case would call for an expansion of goals and objectives. Both effectiveness and efficiency lie in the third state which depicts a balance between institutional implementation capacity and the demands of institutional missions or project objectives.



Method of Project Assessment

Logical Framework Analysis (LFA)-based Project Assessment

Logical Framework Analysis (LFA) is one of the more popular project planning tools for both internationally funded and nationally supported development activities. In the vast majority of cases, however, the method used to monitor project implementation is not consistent with the planning framework.

Project evaluations, in the rare cases where they are made, are often undertaken at or near the end of a project. All too often, they find that goals were not achieved, assumptions were wrong, indicators were meaningless and, worst of all, it is too late to do anything that might change these findings.

LFA-Based Project Assessment is a method of project monitoring and evaluation that has been developed within the framework of reflective institutions. The method aims to:

- foster reflection within the project implementing institution;
- generate early warnings before things begin to go wrong, and allow for corrective decisions;
- improve project reporting, making it more meaningful for the project staff, the funding agency and other concerned institutions; and
- facilitate and improve project evaluation, both internal and external.

The LFA-based Project Assessment method consists of four processes:

- establishment of a monitoring and evaluation structure, adoption of the LFA framework by the project staff, followed by detailed LFA-based planning;
- organisation of an internal information collection and dissemination system;
- participatory and reflective monitoring and evaluation activities with feedback to the project decision system; and

- communication of monitoring and other relevant information to project staff and external institutions (funding agencies, counterpart institutions, etc.).

Implementation of this procedure begins with the **organisation of an internal Monitoring and Evaluation (M&E) Unit**. This requires assigning the task to specific staff members and allocating enough time in their work schedules for this purpose. Staff fulfilling the M&E function should not be required to take any project decision and should not have any special authority over other project staff.

Once the M&E Unit has been set up, its first task is to make the agreed project LFA available to every project staff member. A general staff meeting should be organised to explain and analyze all LFA components including its indicators and assumptions. Records of all LFA shortcomings and problems identified by the staff should be kept by the M&E Unit. This opportunity should also be used to make the project hypotheses explicit.

Working jointly with the M&E Unit each staff person responsible for an activity included in LFA should:

- identify the subactivities required to complete the LFA-identified activity; and
- develop a workplan, with a calendar including estimated dates of completion, for implementing these subactivities.

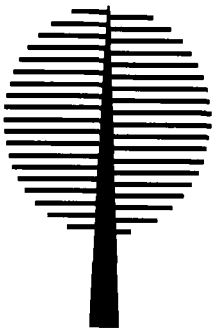
The second process, **information collection and dissemination**, is self-explanatory. The third process, **participatory and reflective monitoring and evaluation**, needs to be addressed through the creation of spaces and forums for reporting and reflection. These must be organised to suit the specific needs of the project, for example:

- coordination meetings, held every two weeks, to bring together project and M&E Unit staff to review the progress of identified activities and subactivities;
- regular meetings, monthly or bimonthly, between those responsible for specific activities and subactivities and the M&E Unit to analyze how the LFA activities are progressing in relation to the established workplan;
- special meetings between M&E staff and the project coordinator, as required, to analyze specific issues and problems; and
- general staff meetings, every second or third month, to assess general project progress, changing realities, status of project assumptions, successes and failures, etc.

In addition to the above, the M&E staff must use every available opportunity to cultivate and maintain informal contacts with the project staff. A key indicator of success for the entire enterprise is for the M&E Unit to be perceived by their project colleagues as an integral part of the team that contributes to the overall achievement of project objectives, rather than as an outside party whose sole job is to pass judgment on their work.

All these activities must lead, in time, to a permanent mechanism of **communication**. This should be done through regular internal reporting based on the feedback of information and analysis to the project staff, as well as through a series of frequent (quarterly) reports to donor agencies and partner institutions.

To ensure that the project context is adequately considered during the implementation process, it is important that the LFA-based Project Assessment method be used in conjunction with tools for context analysis, such as Participatory and Reflective Analytical Mapping (PRAM).



Tools and Training Materials

A range of tools and training materials has been produced as part of this project to assist in the use and dissemination of the various methods described here. In addition to materials developed specifically by the project teams, an array of available tools and techniques was used in developing and testing these methods. They included techniques developed for Participatory Rural Appraisal (PRA), extensively described in manuals for primary health care, agricultural extension, etc. Materials developed by the project, or in conjunction with it, are listed here.

Barometer of Sustainability

The Barometer of Sustainability (Figure 4) is a tool for measuring and communicating a society's wellbeing and progress toward sustainability. It provides a systematic way of organizing and combining indicators so that users can draw conclusions about the conditions of people and the ecosystem and the effects of people-ecosystem interactions. It presents those conclusions visually, providing everyone — from villager to head of state — with an immediate picture of human and ecosystem wellbeing.

There are six key features of the Barometer:

1. It is a performance scale. As such it combines indicators to which the user can attach a performance value. Indicators are chosen if it is possible to define values for them that would be desirable, acceptable or unacceptable with respect to human or ecosystem wellbeing. Indicators that are neutral or of unknown significance are excluded.

2. The scale has two axes: one for human wellbeing; the other for ecosystem wellbeing. Conclusions about the conditions of people and the ecosystem — an index of human wellbeing and an index of ecosystem wellbeing — are expressed as points on their respective axes. The intersection of these points

provides a reading of overall wellbeing and progress toward sustainability. The separation of human and ecosystem wellbeing ensures that an improvement in human wellbeing does not mask a decline in ecosystem wellbeing, or vice versa.

3. A lower score on one axis overrides a higher score on the other: the reading of overall wellbeing and sustainability is based on which subsystem (the society or the ecosystem) is in worse condition. This is to prevent an improvement in ecosystem wellbeing being read as compensating for a drop in human wellbeing, or vice versa. Thus the barometer does not allow a trade-off between human wellbeing and ecosystem wellbeing — reflecting a view that people and the ecosystem are equally important and that sustainability is a combination of human wellbeing and ecosystem wellbeing.

4. The Barometer's 0-100 scale is divided into five sectors of 20 points each, plus a base of zero. This allows the user to control the scale by defining one or more of the sectors. This feature makes the barometer a more powerful performance scale than one where only the end points are defined. When only the end points are defined, results can be odd or even absurd. For example, child mortality rates range from 5 deaths per 1,000 live births (Finland today) to 400 deaths per 1,000 (Mali in 1960). If best is defined as 0 deaths and worst as 400 deaths, then a country with 75 deaths per 1,000 would still fall in the top fifth of the scale (the good sector); and only a country with 320 or more deaths per 1,000 would fall in the bottom fifth (the bad sector). This would not matter if the only purpose of the scale were to rank societies to see which ones perform best. But the main purpose is not to see if a society is doing better than others but if it is doing well.

5. Defining the sectors of the scale extends a series of judgments that starts with definitions of sustainable development, ecosystem wellbeing and human wellbeing, and continues through the choice of issues to be assessed and the

selection and interpretation of indicators. It obliges users to state explicitly their assumptions about the significance of each indicator for human or ecosystem wellbeing, and the levels of achievement that would be ideal, desirable, acceptable, unacceptable, or disastrous. This process of value-based judgments is not peculiar to the barometer — it is common to all assessment and decision making. But it is acknowledged up front and made explicit throughout.

6. Converting indicator results to the barometer scale involves simple calculation. Formulae accessible only to people trained in statistics or indices have been deliberately avoided. Ease of use by a wide range of users is preferred to mathematical elegance or sophistication.

The main use of the barometer is to combine indicators — enabling users to draw broad conclusions from an array of often confusing and contradictory signals. As such it can be employed in a wide variety of assessment methods. An additional use is as a communication tool — helping people to consider people and the ecosystem together.

Booklets

A number of booklets have been produced by the project in their as training and support material for the various methods described earlier. Users are encouraged to adopt and adapt the booklets to their particular settings. In addition to this Overview the booklets are:

- *Questions of Survival;*
- *Assessing Rural Sustainability;*
- *Planning Action for Rural Sustainability;*
- *Barometer of Sustainability;*
- *Participatory and Reflective Analytical Mapping (PRAM);*
- *Community-based Indicators; and*
- *Reflective Institutions.*

Most booklets are available in French and Spanish. In some cases partner institutions have translated them into other languages, such as Hindi.

Visual Aids

Visual aids that have been specifically developed for this project and have proven to be especially effective include the Egg of Sustainability (Figure 1) and the Pyramid of Action (Figure 3).

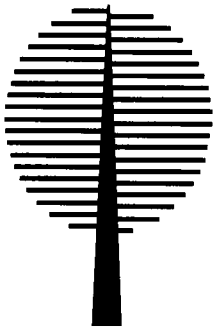
Map Maker

Map Maker Pro is user-friendly Windows software for making maps and displaying data on maps. It has been designed independently by one of the members of the International Assessment team to be used by non-experts while still having a sophisticated capacity for complex analyses of varied data. Map Maker was designed specifically for development projects and includes support for carrying out field surveys.

The software is currently in use in 87 countries. The project used the Map Maker software in its field trials, is helping to make it available through the IUCN network of members, and is assisting in the production of training materials in English and Spanish. Courses in Map Maker have been conducted in Canada, Colombia, Costa Rica, India, Tanzania and Zimbabwe.

Map Maker is available from:

Map Maker Limited
Mull of Kintyre
Scotland, PA28 6SQ UK
Tel: 44 7000 710 140
fax: 44 7000 710 141
e-mail: pro@mapmaker.com



Field Experiences

Developing and Testing the Methods and Tools in Colombia: Sierra Nevada de Santa Marta

This section describes in detail the experience of the field teams and members of the International Team in developing and testing methods and tools in Colombia, Zimbabwe, and India. Each has been rich in lessons about assessing progress toward sustainability as well as about the specific methods and tools that were developed in each country.

The field experiences shaped and tested the methods and tools. They provide the context in which the applicability, strengths and weaknesses of the methods are best understood.

Even though the International Team and the local teams first developed and tested the methods and tools at the local level, it should not be assumed that the methods and tools are only applicable at that level.

As mentioned in the Preface, the methods and tools have been used at regional, national and international level. Details of the national, regional and international applications will be available during 1997-98.

Colombia: Sierra Nevada de Santa Marta

Tools and methods for assessing sustainability have been developed and tested in Colombia by members of the IUCN/IDRC International Assessment Team and the Fundación Pro-Sierra Nevada de Santa Marta (FPSN). The Fundación is an established non-governmental organisation working in the Sierra Nevada. It works in three areas: scientific research, institutional coordination and action-research at the community level.

Working together, the Fundación and members of the international team have developed and tested methods for all three types of assessment: system assessment, self assessment and project assessment. Participatory and Reflective Analytical Mapping (PRAM) is the principal method developed and tested for system assessment. Three different methods have been

developed for self assessment. These are Systematic Analysis of Experience, Development of Reflective Capacity, and Institutional Implementation Capacity Assessment. The method developed for project assessment is Logical Framework Analysis (LFA)-based Project Assessment.

Sierra Nevada de Santa Marta

Sierra Nevada de Santa Marta, in northeastern Colombia, is the highest coastal mountain range in the world, reaching a height of 5,800 meters just 40 kilometers from the Caribbean coast. The range has a triangular shape with its three faces oriented to the north, southeast and southwest. Due to this shape, the humid winds are intercepted by the range in different ways, generating a broad variation of rainfall patterns and distribution. This, along with the thermal variation of the different altitude levels, creates a wide variety of life zones and ecosystems, making the Sierra Nevada unique in terms of its biological diversity.

This privileged ecological situation provides the context for a complex social situation. The Sierra Nevada was inhabited by people long before the arrival of the Europeans. Several indigenous groups shared the Sierra and used its resources to fulfill their needs through the establishment of complex management systems. These systems included combining seasonal movements up and down the thermal levels to raise a variety of crops, hunt different species and extract various forest products. These groups mastered the management of water, creating systems whose characteristics can be admired today in the remnants of their stone cities. They also developed a sophisticated cultural and spiritual social system that still survives.

The arrival of the Spanish in the 16th century began a colonization process characterized by a western pattern of use and distribution of resources. Beginning in the lowland plains, this process later moved up the Sierra slope,

restricting the indigenous groups to the highlands and disrupting their traditional systems. Colonization increased significantly this century due to the displacement of peasant families from the central regions of the country by social violence that has affected Colombia. In the last decade, the situation has worsened further due to the introduction of illegal crops and the arrival of different insurgent groups who have entrenched themselves in the Sierra. This process has led to increasing violence in the region and the emergence of various paramilitary groups.

This has triggered a chaotic process of land occupation and unsustainable patterns of natural resource use (water, forests, wildlife, etc.). The result is a growing degradation of the natural resource base (just 18 per cent of the original forests remained in 1990) and of living conditions.

Fundación Pro-Sierra Nevada de Santa Marta and the Sierra Nevada Conservation Strategy

The Fundación Pro-Sierra Nevada de Santa Marta (FPSN) was set up in 1986 by a group of ecologists, archeologists, and social activists with the aim of conserving the natural and cultural resources of the Sierra Nevada through improvements in the living conditions of its inhabitants.

FPSN established Community Assistance Centers (CACs) in the northern face of the range to protect the headwaters of the Guachaca and Buritaca rivers. The CACs soon became the hub of the Fundación's community-level activities. They were not only critical as points for disseminating services to local communities, but also as centres for demonstrating and testing new technologies, approaches and research. Complementing this field presence, FPSN also maintained a strong national, regional and international presence aimed at generating an awareness of the value of, and the threats posed to, the ecological and cultural resources of the Sierra Nevada.

Building on these early successes, FPSN made more ambitious plans to focus beyond the northern face. In 1988, it completed an Integrated Diagnosis of the entire Sierra Nevada. The results highlighted the delicate social and ecological situation in the area and the urgency of addressing the situation to avoid irreplaceable losses.

The establishment of the IUCN Regional Office for South America in 1990 led to the development of a conservation strategy for the Sierra Nevada in order to provide a framework for coordinated action on the part of the Fundación, relevant government agencies, and local communities. In 1992, the Fundación carried out consultations throughout the Sierra Nevada to determine if there was a willingness to launch a participatory process to develop such a conservation strategy. The consultation involved almost every national and local institution in the region as well as a large number of local communities and organisations of both Indian and peasant groups. The results were extremely encouraging.

The German development assistance agency, GTZ, agreed to support preparation of the strategy. Two characteristics of the strategy formulation process are worth highlighting:

- the project was to be run entirely by Fundación staff; and
- the planned output was a set of principles, guidelines, and projects agreed by the different actors, rather than a traditional top-down development plan.

The FPSN/GTZ project started in 1993. It was planned using the Logical Framework Analysis (LFA) method, obtained through the ZOPP process of objective-led planning. Its objectives were to maintain a participatory approach and to ensure a simultaneous and integrated consideration of social and ecological concerns.

The Santa Marta Conservation Strategy has since advanced through several processes. These include:

- **A training cycle for community leaders** (Indians and peasants) to enable them to participate meaningfully in the strategy. This has created new links with local communities and served as a useful opportunity to understand their concerns, needs and preferences. This process led to the organisation of an association of community leaders (*asolideres*) as a platform to convey a unified message from the Sierra Nevada communities to local, regional and national authorities and institutions.
- **Two cycles of community workshops** covering about 50 communities throughout the Sierra. These workshops aim to encourage participation, to generate awareness about the situation and the strategy, and to obtain an understanding of community perceptions of problems and preferences for potential solutions.
- **A training process for municipal officials** from the 11 municipalities of the Sierra to enable them to participate in the strategy. This has also helped direct financial resources towards initiatives linked with the sustainable development of the Sierra Nevada. The process led to the organisation of a regional association of municipalities (*Asosierra*) that quickly became very active in promoting Sierra interests within national governmental structures.

In late 1995, the first draft of the *Basis for the Conservation Strategy* was completed and distributed, and a new series of meetings was organised to obtain its final approval. The first half of 1996 is being devoted to develop proposals for projects that would implement the recommendations of the Conservation Strategy.

The participatory and integrated approach adopted as a distinctive feature of this endeavour required the organisation of hundreds of public meetings and

workshops all over the Sierra with their attendant logistic and follow-up requirements. It also involved a tremendous expansion of interactions with local groups, communities and government agencies at various levels.

This approach triggered significant changes in the Fundación. Its technical staff multiplied four times (from seven to thirty) and its focus shifted from localized fieldwork to regional issues. The increased staff has implied the incorporation of a large number of new people without previous experience in the approach and methods of FPSN. The shift in focus has meant less direct work with specific communities (although the CACs continue to operate) and more attention to institutional and policy issues.

Monitoring & Evaluation Unit at FPSN

In 1994, the Fundación was approached by the IUCN/IDRC project on Assessing Progress Toward Sustainability, which was seeking a local partner in Latin America. Both FPSN and GTZ expressed an interest and in April 1994 a Monitoring and Evaluation Unit (M&E Unit) was established within FPSN. The unit was staffed with Fundación personnel and funded jointly by GTZ, FPSN and IUCN until the end of 1995. It was also agreed that members of the International Assessment Team would provide technical assistance and training to the M&E Unit.

The unit was established with three main objectives:

- to develop an internal capability for monitoring and assessment within FPSN;
- to contribute to the IUCN/IDRC project's development of a family of methods to assess progress toward sustainability; and
- to monitor the FPSN/GTZ Sierra Nevada Conservation Strategy project.

The training needs of the M&E Unit were addressed through short courses and the preparation of booklets. Training courses were organised on:

- the use of Map Maker (user-friendly software for the preparation and use of maps);
- ways to organise, understand and learn from the FPSN experience (based on previous work in Central America); and
- software for project planning and monitoring.

Training booklets were prepared by the International Assessment Team on:

- principles of evaluation;
- strategies for sustainable development;
- characteristics of reflective institutions; and
- use of maps in planning for sustainability.

The participatory process to develop a suite of methods to assess progress toward sustainability started with workshops with FPSN staff to analyze the general situation of the Sierra and to discuss the Fundación's mission, goals and activities. These discussions triggered a process of deep reflection within FPSN regarding several problems that were affecting it. This process helped the Fundación realize that assessment could not be a mere add-on. To be useful, it needed to be a central element of the institutional ethos.

This realization led to an institutional restructuring that encouraged greater learning and communication and was better suited to the institution's new role emerging from the Conservation Strategy. It is remarkable that this deep transformation — which included a reorganisation of the working teams, a new system for more participatory decision-making, a shared vision of the institutional mission and goals, and a better integration of its different activities — was carried out simultaneously with all the tasks required for the Conservation Strategy project.

Advantage was taken of this experience to develop three methods of self-assessment that can be adapted to other institutions and projects. All three focus on assessing the institution itself and how it might learn from what has happened in the past, respond to what is happening in the present, and prepare for what is likely to happen in the future.

Systematic Analysis of Experience (SANE) is a basic method that aims to facilitate the analysis of concepts, hypotheses, and activities of an institution or a project. This is done to learn from successes and failures by developing an explicit and shared view of past experience and the present situation.

Institutional Implementation Capacity Assessment is a method that focuses on the demands made on an institution or project (in terms of human and financial resources, credibility, experience, etc.) by its mission or stated objectives and its capacity to meet those demands. In studying the balance (or, more often, the imbalance) between the two, an assessment can be made both of what the institution, or project, is capable of doing and of what capacity needs to be built before it can successfully do what it wants to do.

The third method relates to the **Development of Reflective Capacity** in institutions. The FPSN experience during late 1994 and 1995 highlighted the importance of the institutional aspects of assessment. Assessment does not happen in a vacuum. It is done by, and for, institutions. Institutional characteristics are a key aspect in devising and conducting an assessment. It has became obvious that to get the maximum benefit from monitoring and evaluation the institution should be — or be in the process of becoming — a reflective institution. The characteristics of reflective institutions include the existence of strong horizontal linkages, feedback from the field, hypothesis-led planning and the constructive identification of failure. This method proposes a way of developing reflective capacity in institutions, especially through structural changes.

At the project assessment level, the mandate to monitor the progress of the Sierra Nevada Conservation Strategy provided the M&E Unit and the International Assessment Team with an opportunity to develop the **LFA-based Project Assessment** method. This builds on LFA-based planning, which was already being used in the FPSN/GTZ project. The method provides both a mechanism for defining workplans, intermediate goals, hypotheses, etc., and a procedure for organizing and implementing a series of participatory forums to analyze project progress and problems.

Finally, for system assessment, a comprehensive approach was developed that includes participation and reflection as its principal features and is organised around the analytical mapping of key social and ecological issues related to sustainability. These characteristics provided the name for the method: Participatory and Reflective Analytical Mapping (PRAM). Sustainability analysis requires simultaneously addressing several processes happening at the same time at different complexity levels (e.g., farm, village, municipality, province, country). PRAM recognizes this need and highlights the importance of explicitly distinguishing the complexity levels for analysis and the complexity level at which actions are to be implemented. It emphasizes the need to ensure a match between the geographic complexity level at which the analysis has been carried out and the level at which action is to be taken.

Lessons

The Sierra Nevada experience yielded many important lessons about assessment in general and about specific methods. The general lessons are:

- It is necessary to differentiate between assessment of projects (activities that have been formally planned) and processes (activities that may be based on logical decisions and clear goals, but not formally planned). This is a key distinction because the methods and tools to be used in each situation are different. Planned activities require methods centred in the

plan (e.g., LFA-based Project Assessment) and incorporating four basic concerns: relevance, impact, efficiency, and efficacy. Processes require methods that address general trends and issues in a comprehensive way (e.g., Participatory and Reflective Analytical Mapping).

- Good assessment encourages reflection. Obviously, it may be used to evaluate project, institutional or personal performance, but its maximum impact is achieved when it is used systematically to foster reflection — which, in turn, can inform action.
- A key aspect of any assessment is the identification of what is not known: information gaps. Monitoring this "ignorance" is a powerful tool for assessing progress. A positive change in the level of our ignorance is a good indicator of progress.
- Being a reflective institution is not a prerequisite for good assessment, but reflective institutions are more likely than nonreflective ones to do useful assessments. Assessments are, however, a good opportunity to foster more reflective institutions.
- Whenever possible, a formal monitoring and evaluation structure (a unit, section, or department) should be established within the institution undertaking the assessment.
- Analysis of the global context in which an institution or project is situated is an essential step for successful assessment. Context assessment should be a regular activity for institutions as well as long-term projects.

Developing and testing various methods of assessment was a learning process. As much was learnt from the mistakes made as from the things that worked. The remainder of this section will summarize particular lessons learned from developing and testing the following methods: Participatory and Reflective Analytical Mapping, Development of Reflective Capacity, and LFA-based Project Assessment. Not enough experience has yet been acquired in using Systematic Analysis of Experience and Institutional Implementation Capacity Assessment for specific lessons to be identified.

The main lessons learned while developing and testing the **Participatory and Reflective Analytical Mapping (PRAM)** method included:

- PRAM aims at creating spaces and opportunities for reflection within institutions and projects. For such a "reflective space" to be created, opportunities to facilitate reflection must be participatory and inclusive.
- To be effective, PRAM assessments must be held periodically and a record of the conclusions, agreements and suggestions must be kept and reviewed regularly.
- PRAM embraces a "T-approach". The horizontal axis of the "T" signifies the breadth of issues relevant to the institution or project. The vertical axis signifies the more focused and immediate concerns. The implication of a T-approach is to concentrate on the immediate without losing sight of its wider context.
- PRAM is a learning-by-doing approach. Identification of information gaps ("ignorance") and clear definition of the quality of information are two key aspects. This, however, must not be an excuse to delay action until reliable information is obtained. Rather, it highlights the importance of paying attention to these issues and to address them as one proceeds.
- It is critical to act on the information available, without losing sight of its limitations. The relevance of the results and the validity of the hypotheses underlying actions should be constantly examined.
- It is important to identify several indicators and to measure or estimate their values for the various complexity levels being considered. In doing so, the key element is not the final number, but the process by which it is obtained. The power of this method lies in the process of discussion and learning amongst the participants. This process must not be rushed.
- Maps are essential in this method. Not only do they record and present information in a clear and manageable way, they are also instrumental in keeping the participatory process of reflection focused. The presentation quality of a map is less important than the quality of the ideas and information the map conveys.

- The Colombia experience suggests that the landscape level may often be the most appropriate complexity level for PRAM. The concept of landscape as a unit with homogeneous social and ecological characteristics proved to be useful and attractive in the Colombian context but still needs to be tested in other situations.

The experience of testing the Development of Reflective Capacity method in Colombia has yielded some important lessons. They need to be understood in the context of the FPSN.

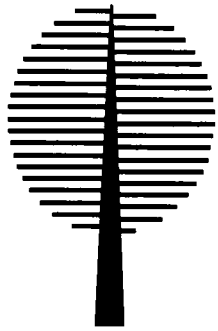
- Monitoring and evaluation alone are not enough to ensure the development of a reflective institution or project. It is also necessary to have a structure, preferably a forum for routine reflection and learning.
- horizontal links within institutions and projects should be encouraged and actively facilitated. One way of doing this is to set up teams and provide opportunities for them to interact and work together.
- In the FPSN experience, it was found useful to start by organizing a general meeting of the entire staff to carry out a context analysis. The booklet *Questions for Survival* proved to be a useful tool for this purpose. This step may be followed by a short PRAM exercise.
- An effort should be made to develop a shared understanding of ambiguous or vague terms (e.g., conservation, sustainability, development, etc.) early in the process.
- Reflection within institutions and projects can be a time consuming activity. A good rule of thumb is that reflective activities can easily demand 15-20 per cent of staff time.
- It is critical to be aware that the development of reflective capacity can generate internal resistance. This is mainly because we are trained to highlight success and are uncomfortable — even opposed to — admitting and analyzing errors. Patience is required to deal with these tendencies. At the same time, a focus on learning from failures must not come at the cost of learning from genuine successes.

- Resistance is overcome later on as morale improves with the definition of clearer statements of mission and objectives, the creation of spaces for discussion, resolution of touchy issues, and the emerging unification of criteria for action.

Several lessons have been learned from the experience of using LFA-based Project Assessment to monitor the progress of the Sierra Nevada Conservation Strategy.

- Most problems with LFA emerge from its not being carried out properly. The most common weaknesses are at the level of indicators, means of verification, and assumptions that are frequently confused or just made to fulfill donor requirements. The internal logic of LFA is also frequently violated. Very often, projects play with results and assumptions to depict higher levels of achievement than merited. When thus abused, LFA is reduced to just another top-down planning tool.
- LFA planning can be improved considerably if it is preceded by context analysis. Such analysis is best carried out using a method, such as PRAM, that fosters reflection while focusing on specific issues and geographic levels.
- The LFA process is made more robust if it is based on hypothesis-led planning. Making hypotheses explicit can, however, be a tedious and sometimes infuriating task. This is especially so when project staff are overly action-driven and consider this to be a waste of their time. Those who facilitate LFA-based Project Assessment should be aware of these problems and should be prepared to address them before they emerge.
- Monitoring techniques that simply require the staff to fill out designated questionnaires have very limited use unless they are complemented by real interaction between staff members and those managing the monitoring exercise.

- The monitoring and evaluation team must not isolate itself in an ivory tower. Its most important challenge is to be accepted by the institution or project staff as "one of them" rather than as an outside threat. It is advisable for the M&E team to participate in field activities, assisting their colleagues in any possible way and opening spaces for reflection and discourse within the institution or project.
- Keeping an accurate and detailed record of what is happening in the project is a tedious, but essential, task. Such record keeping makes future reporting easier and is crucial for institutional learning through methods such as the Systematic Analysis of Experience.
- The LFA-based Project Assessment method is best used in conjunction with other assessment methods. For example, it is fairly powerful in assessing efficiency and efficacy but relatively weak in assessing relevance and impact, which are more context related. Using a method such as PRAM can provide the necessary context analysis.



Field Experiences

Zimbabwe: District Environmental Action Plans

Tools and methods for assessing sustainability have been jointly developed in Zimbabwe by members of the IUCN/IDRC International Assessment Team and the District Environmental Action Planning team of the Government of Zimbabwe. Assessment methods are being developed at the national and district levels. The tool being used at the national level is the Barometer of Sustainability. A range of tools for community participation has been used at the district level.

The methods are based on three principles:

- the importance of developing a common understanding of the interdependence of human wellbeing and ecosystem wellbeing — the main tool developed for this is the Egg of Sustainability (Figure 1);
- the importance of assessing human and ecosystem wellbeing together — the main tool for doing this is the Barometer of Sustainability (Figure 4); and
- the importance of founding action planning on the community's own commitment and actions it will take itself.

From October 1994 to May 1996, methods and tools and have been tested and applied in villages in several districts. Participatory Rural Appraisal (PRA) techniques have been integrated into assessments of human and ecosystem wellbeing; and community action plans have started to be derived from the assessments.

The DEAP Process

The Government of Zimbabwe is preparing District Environmental Action Plans (DEAPs) with the support of the United Nations Development Programme (UNDP) and with technical assistance from the World

Conservation Union (IUCN). Action plans are being prepared in up to eight pilot districts. The lead agency is the Department of Natural Resources in the Ministry of Environment and Tourism. A national strategy team helps district strategy teams to facilitate preparation of action plans by the villagers.

The process has begun in four pilot districts: Umzingwane (Matabeleland South Province); Mberengwa (Midlands Province); Hwange (Matabeleland North Province); and Masvingo (Masvingo Province). The national strategy team (also called the core team) is being trained by the IUCN Advisor and the International Assessment Team members in strategy assessment and is actively involved in testing and developing assessment methods. Assessment is treated as an integral part of planning strategies for sustainability. Assessment, action planning and implementation are closely linked in a continuous cycle.

The DEAPs are intended to be community-based strategies for sustainable development. Their scope includes both the human system and the ecosystem and they will go beyond planning into implementation. The strategies are being built from the ground up, starting with villages within a ward. This is to ensure full participation of villagers as the primary stakeholders in natural resource management.

The district level is important because it is the lowest level of government administration that can respond to the development efforts of communities. The district level is all outside agencies intervene, whether donor, governmental, non-governmental, private, or the community. Any agency must reach the community through the Rural District Council (RDC). Rarely would outsiders go straight to a village without the residents themselves questioning the legitimacy of their involvement. The district administration is also usually the first place community members go when seeking outside assistance.

Moreover, professionals from different government departments are already working in multisectoral teams at this level. A formal structure, the District Development Committee, comprising government departments represented at district level, already exists to advise the Rural District Councils on development matters. It is therefore the obvious enabling mechanism for the DEAP which needs an onsite, multisectoral team to address matters of human and ecosystem wellbeing.

Currently, the government is looking to wean the Rural District Councils from central government support so that they can look after their own affairs and it has embarked on a large capacity building programme for the RDCs. By developing strategic planning skills among district level personnel, DEAP contributes to this capacity building. The DEAP process has also begun to reveal how local capacity building can be achieved most effectively. Working in the villages has demonstrated that traditional leaders are well respected and more widely regarded as the authentic leaders of the people than elected district officials.

Although some difficulties remain in trying to operationalize a bottom-up planning process through an existing government bureaucracy, the Government of Zimbabwe has demonstrated its commitment to grassroots participation in undertaking the DEAP project. Problems are most apparent in slow decision-making, which constrains responsive action on the project in the field. Another pertinent question concerns how an approach such as DEAP might be replicated and extended countrywide. The current level of investment, mainly of professional time, could not be repeated for every village in every district.

The experience until now suggests that working in an entire ward stretches the capacity of the core team. It is preferable to work in a few villages and to concentrate on getting the method right than to try reaching the maximum number of villages less effectively.

Developing a common understanding

Our assessment approach has been based on the principle that a society is sustainable only if both the human condition and the condition of the ecosystem are satisfactory or improving. If one or the other is unsatisfactory or getting worse, the society is unsustainable. Understanding this principle means acknowledging that people are an integral part of their ecosystem. Rural communities who have derived their livelihoods from the natural resources around them for many generations readily understand this.

During the assessments in Zimbabwe, we successfully used the Egg of Sustainability as a communication tool to hold discussions in the villages about this interdependence. It was not difficult for people to see the relationship between their own wellbeing and that of the ecosystem they live in. The concept of the egg as something with two interdependent parts, both of which had to be individually good for the whole to be good, was easily grasped.

The core team made visual aids of the Egg using coloured card for display and discussion in village meetings. At first, four eggs were drawn, showing the four combinations of the egg yolk (human wellbeing) and the egg white (ecosystem wellbeing):

- a bad yolk and a bad white = unsustainable society;
- a bad yolk and a good white = unsustainable society;
- a good yolk and a bad white = unsustainable society;
- a good yolk and a good white = sustainable society.

The team found the choice of colours used was important in order to give the right message. Later it found that using one egg and replacing the yolk and white with the appropriate colours worked even better. Presenting one egg at a time helped to focus discussion on one idea at a time. Once the idea

had been discussed, questions about change came up. At that point it was useful to move on to the next tool, although some interesting discussions were held in some villages about good eggs producing chickens.

The Barometer of Sustainability is a useful tool for communicating the idea that human and ecosystem wellbeing needed to be assessed together. It was not certain that the biaxial graph format would be understood by villagers, but it was found that the idea of two things getting better or worse on a scale, and combining them, was easily grasped if it was explained simply.

When the Barometer was used at the community level it was called a scale. It was found that the key to successful introduction of the Barometer was to allow the community to define the terms. People described the categories for both ecosystem and human wellbeing in their own words as they perceived them. Taking part in defining the words used also made it easier for people to place themselves on the scales. Talking about the wellbeing of people and the ecosystem in the past and present led to discussions about actions that people could take to improve their own wellbeing and that of the ecosystem.

Assessing Rural Sustainability

Assessment and action planning are one process, but were split into two phases. It was decided to prepare two booklets: *Assessing Rural Sustainability* for the first phase; and *Planning Action for Rural Sustainability* for the second. The booklets were used for training the core and district teams prior to their going into the field. Each field visit tested and improved them. Earlier, more general booklets were used as the basis for discussions during training. A step-by-step guide helped the teams to build confidence in their capacities. As soon as they had used a booklet once, they were able to modify it and develop a better method. Both booklets have been prepared with the active participation of the core team.

Field Experiences: Zimbabwe

The first visit to each community begins with the tools for developing a common understanding: the Egg and the Barometer of Sustainability. The first booklet describes how to go about this task and how to perform a more detailed assessment of human and ecosystem wellbeing. It also details ways to get villagers to think about strategies before the second visit.

The first visit takes three days in each village. Meetings last up to five hours and are supplemented by informal discussions in smaller groups on transect walks, in homes where the team members stay in the village, or while participating in everyday tasks with them. These informal sessions provide valuable insights.

Questions are fundamental to the assessment approach. The method is based on asking questions in the community to develop an understanding and to provide a basis for informed action. It began with two generic questions:

- how are you? and
- how is the ecosystem?

These questions contain the essence of the approach. They can be elaborated in great detail and lead from reflection to action. The generic questions provide a framework within which the core team uses a variety of tools and methods to assess human and ecosystem wellbeing.

A number of PRA tools have been adapted for use in this participatory assessment. Maps drawn by villagers are among the most useful tools. By participating in the creation of maps of their area, people can explain the state of human society and the ecosystem to themselves and to others. Villagers prepare two maps, one of the past and one of the present. Depending on the size of the meeting, smaller groups are formed, sometimes randomly, sometimes separating men and women or young and old. Women's and men's maps often differ, with men emphasizing boundaries

and cattle grazing while women emphasize resources such as water, forests and croplands.

Maps are drawn on the ground using sticks, stones or other available items. The maps are then copied onto newsprint by the villagers. The newsprint version is later mounted on card and brought back to the village for display and discussion. Page-sized copies are also prepared for team reports and future use.

Other PRA tools that have proved useful include games and role-playing, trend analyses, rankings and food supply calendars. These contribute to building a picture of ecosystem components (the area, condition, diversity and resources of woodlands, croplands, grazing land, wetlands, etc.) and the human system components (wealth and livelihood, health, population, knowledge, etc.). Newsprint charts of the human and ecosystem components are used during group discussions. The questioning approach is continually used to probe for new issues and information, such as the following:

- what is the state of each ecosystem component and human infrastructure?
- what has changed?
- how and why has it changed?
- who caused the change?
- who benefitted from the change?
- who is suffering from the change?

In exploring the state of the human system, villagers are asked to define good health, wealth and poverty, and to explain changes, using historical tables, pie-charts and other tools to analyze trends. Facilitated discussions of the state of knowledge and institutions are illustrated using similar techniques.

Planning Action for Rural Sustainability

At the end of the first visit the idea is introduced of developing an action plan to address the concerns raised during the initial assessment. Villagers are asked to suggest actions that might remedy the problems they have identified. The Barometer is looked at again, to reassess where people think they are on it now, where they would like to be, and what actions they can take that they think will get them there.

The Pyramid of Action is also revisited. It emphasizes that good strategies must be based mainly on actions that people can take for themselves; with a smaller number of actions relying on outside assistance; and the smallest number, at the top of the pyramid, being required entirely from outsiders. If the proportions are reversed the Pyramid becomes unstable.

Between the first and second visits to each village, a few people from the strategy team return with the District Natural Resources Officer to present the assessment to the Rural District Council and leaders of all the villages in the ward. A meeting is also held in each village to present the report and seek the villagers' preliminary action plan. The team reviews each plans in relation to ten criteria:

1. The issues that the action plan addresses are the key issues (or problems) identified by the assessment.
2. A manageable number of priority issues has been chosen.
3. The actions to tackle the issues deal with causes of problems as well as effects.
4. The actions are organised into programmes.
5. Each programme consists of an appropriate mixture of actions that the villagers can take without help, actions they could take with some help, and actions that need to be taken by people and organisations outside the community.

6. The actions are practical.
7. The same actions are not being done already by someone else.
8. Commitments can be obtained for the help that villagers require and for the actions that need to be taken by people and organisations outside the community.
9. The programmes and the individual actions work together and do not conflict with each other.
10. The action plan has the full support of the community and is not being pushed by one interest group.

The focus of the second visit is negotiation. The goal is informed, collective decisions. The team is there to facilitate negotiation and seek consensus among the various interest groups on a strategy for sustainability that meets the ten criteria. It is important to make sure that every interest group — men and women, older and younger people, different ethnic groups, resettled populations — are heard, and are seen to be heard, during the discourse.

The generic questions guiding the method at this stage are:

- what needs to be done?
- how would you know if things are getting better or worse?

The villagers review the assessment, agree on priority problems, and chart the causes and effects of each priority problem. Then they decide on the actions to tackle the main causes and problems.

The questioning approach is continued as planning proceeds. It is critical that assessment be an integral part of strategic planning to check that the actions proposed will lead to the desired improvements. The Barometer of Sustainability and the Pyramid of Action are again revisited to check the actions proposed:

- are the proposed actions likely to improve human and ecosystem wellbeing?
- can these actions be realistically implemented largely through community action? If not, what outside resources and assistance are required? Are they available?

Charts are used at various points during the negotiation to ensure that everyone is clear about what actions are being agreed to. An additional booklet, *Community-based Indicators*, is also used during this stage. The questions asked when designing community-based indicators include:

- how would you know if things are getting better or worse?
- how would you measure it?
- how would you get the information?
- how would you record it?

The second visit, which is also planned to take three days, concludes with a capacity analysis and confirmation of who does what and when. Throughout the process, people and institutions are identified who can take responsibility for keeping records, taking actions, and collecting information. This forms the basis for the community's decision about who will take responsibility for each part of the implementation.

Learning

At the time of writing, assessment visits have been completed in villages in four districts and an action planning visit has been conducted in one district. The method as outlined is still subject to review and testing by the national and district teams. However, a great deal of learning has taken place about what works in practice and tools are continuously being redesigned and adapted:

- In three days of formal meetings and informal discussion, villagers and the support team are able to build a common understanding of human and ecosystem wellbeing and the need to improve both together. In another three days of formal meetings and informal discussion, villagers are able to develop an action plan that is founded on the assessment, their own commitment, and what they can do themselves. We are convinced that the method and tools work well in a rural African setting. We do not know how well they would work in an urban setting.
- Developing training materials on the spot, testing them in the field, improving them, and testing them again, is a demanding process. But it makes the training more realistic and useful, and soon turns trainees into trainers themselves.
- Working with villagers has revealed many of the gaps in the process and provided invaluable insights that could not have been gained any other way. There are gaps in communication at many levels, from feedback to the national agencies to providing external data to the villagers. The management structure needs to be able to respond to these needs.
- Working within a government structure has led to some difficulties despite the government's commitment to a participatory process. Most importantly, we have learned that reflection and self-assessment are an essential part of system assessment. It is now proposed that institutions involved at various levels engage in a reflective assessment of their own roles in the DEAP process, their goals, and how these can be achieved more effectively. This is an ongoing activity of the national strategy team, but it is necessary to formalize it and to initiate reflection among the district strategy teams in consultation with the Rural District Councils and at the national level with all the agencies involved, including the Department of Natural Resources, UNDP and IUCN.
- We have learned the importance of keeping larger objectives in mind and not simply focusing on short-term targets. It is important to get the process right in a few pilot locations rather than to reach the maximum number of villages in the shortest amount of time.

- At the same time, we have to reflect on how assessment is to become effective on a wider scale, and how the various levels of assessment are going to link up. These questions remain largely unresolved.
- Linkages from village level to national level need to be developed. A preliminary Barometer of Sustainability was tested at the national level using data collected from various national agencies. Links between community and national assessments have, however, not been developed.
- At present, we are focusing on improving the way we work with RDCs. We want to make sure we report back to them on the findings from villages in their district. It is also important to develop ways to move from village-level action plans to ward- and district-level plans. It is clear that resources are not available to carry out the same intensive process in every village, and ways of disseminating ideas horizontally are needed.
- Apart from activating district-level linkages through local meetings organised by RDCs with assistance from the trained district strategy teams, a wider communications strategy is called for. Two ideas, interactive mass communications and networking, have been suggested but remain to be discussed and developed at the national level during the process of institutional reflection.

Field Experiences

India: Integrated Resource Management Plan, Tumkur District, Karnataka State

Tools and methods for assessing sustainability have been developed and tested in India by members of the IUCN/IDRC International Assessment Team and Development Alternatives (DA), India, a major non-governmental organisation (NGO). DA aims to create sustainable livelihoods through development and dissemination of appropriate technologies, environmental management strategies and institutional systems. The organisation has specific focus activities at all levels, including national and international policy formulation, methodologies and techniques development, and field implementation.

Since May 1995, assessment methods have been developed and tested in Tumkur District, Karnataka State, India. Various tools developed by the project in Zimbabwe and Colombia have also been field tested. The methods developed by the India team include System Analysis and Planning and Strategic Negotiation for Community Action. A wide range of PRA devices, mapping approaches, and other tools, including the Egg of Sustainability (Figure 1), the Barometer of Sustainability (Figure 4), and the Pyramid of Action (Figure 3) have also been tested as part of the project.

The Tumkur experience demonstrates the challenge of advocating sustainability within a system dominated by crisis management. The need for robust indicators can make sense only when stakeholders share a notion of a quality of life — a quality they aspire to, or know they have lost, or both. Investment in patient reflection and dialogue is a precondition for this work so that real needs are revealed, and then prioritized. A shared sense of priority can assist the acceptance and use of indicators, by linking indicators with basic concerns. This sharing also cements partnerships between change agents and those they serve: together they focus on problems which both recognize as opportunities for joint action.

Development Alternatives (DA) in Tumkur

DA has set up a number of satellite field offices in the country in addition to its head office in New Delhi and various regional offices (including one in Bangalore covering Southern India). DA established a field office in Tumkur District (Karnataka State) in May 1994 with an initial project focus on the regeneration of degraded lands ('wasteland' development). Around the same time, DA began working on the *District Resource Atlas* for Tumkur with financial assistance from IDRC. The atlas was completed in May 1995.

Meanwhile, the Government of India had embarked on an Integrated Mission for Sustainable Development (IMSD). Approximately 90 districts in India with problems of natural resource management had been identified. The idea was to start by preparing action plans, on a watershed basis, for a priority *taluk* (a division within a district) in each of these districts and then proceed to complete an action plan for the entire district.

Chiknayakanhalli *taluk* in Tumkur district — with approximately 100,000 hectares and a population of 200,000 people — was one of the priority areas identified. DA, with its established field presence in the area, was chosen to take responsibility for IMSD in this *taluk*. The IMSD initiative has two major advantages:

- the programme establishes rigorous requirements for database development and excellent quality control systems; and
- there is a commitment to mobilize financial and other support for implementing the action plan once it is formulated.

Thus, in Tumkur district, DA was now working at three critical levels: at the village level with the implementation of the wastelands development project; at the *taluk* level with the IMSD in Chiknayakanhalli; and at the district level in producing a resource atlas. There remained an unfulfilled need, however,

to seriously look into the issues of sustainable development in a systemic and holistic manner. The IUCN/IDRC assessment project initiated in May 1995 in Chiknayakanhalli *taluk* provided an opportunity for DA to do exactly this.

The Approach

Recognizing the need and opportunity to influence and energize the system into a more effective approach for assessing progress toward sustainable development, the first operational task for the team was to be clear on the following questions:

- **What should be the scale and scope of the assessment process?** Since the opportunity provided by the IMSD project was at the *taluk* level, expanding gradually to the entire district, Chiknayakanhalli *taluk*, was selected, with 234 villages organised into 28 *gram ganchayats* (local self-governance structures). The assessment process essentially focused on the potentials and constraints of the *taluk*'s natural resource base, people and local institutions. The preliminary assessment would lead to the preparation of a sustainable development strategy and action plan for Chiknayakanhalli *taluk*.

- **Who should take up the assessment?** DA chose the role of a facilitating or enabling agency in the assessment process. During close interactions with local informed persons, we realized that Karnataka is one of the states in India where the *panchayati raj* system (the system of local self-governance) is comparatively well advanced. Moreover, this system had recently received a more concrete endorsement through an important amendment in the Constitution of India. Under these circumstances, it was decided to assess the system with the *gram panchayats*. This would also shed light on their capacity and commitment to be actively involved in the IMSD, or other such programmes.

- **How should the team be organised?** The DA field team in Tumkur was entrusted with the primary responsibility of building up local rapport and credibility. It also took the lead in assessment at the village level. The team in New Delhi was responsible for analyzing all secondary information, including interpretation of satellite imagery and application of Geographical Information Systems (GIS) techniques. The Delhi team was also responsible for interacting with relevant national government agencies and networking with other national and international partners.

The Process

The process of assessment that emerged after a series of initial interactions with the community involved four steps:

- rapport and credibility building;
- situation analysis;
- derivation of options; and
- formulation of an action plan.

Rapport and credibility building: The purpose was to establish a working understanding among the various actors and stakeholders. A series of interactions was organised with local knowledgeable persons, opinion leaders, *gram panchayats* and other community groups to explain the DA team's agenda and stake in Tumkur. These meetings also provided an initial reading of local perceptions and interests on issues of sustainable development.

At the same time, links with the district and *taluk* officials were established through DA's other programmes in the area. This sustained multi-pronged rapport building combined with the visible outputs helped to build our credibility with the local partners.

Situation analysis: The principal methods used for situation analysis were System Analysis and Planning and Strategic Negotiation for Community

Assessment. Each of these methods also had their associated tools. Questions were an integral part of the approach, the key ones being:

- what are the major problems currently confronting Chiknayakanhalli *taluk*?
- what factors have contributed to these problems?

The resource atlas provided a rough initial information base. This was further refined by rigorously analyzing each of the critical issues identified. The purpose of this step was to analyze what the community considered to be its major problems, in relation to sustainable development, and what they considered to be the causes of these problems.

Derivation of options: Having identified the problems and established some understanding of their causes, the community was now encouraged to identify the options for solving them. Importantly, this step emphasized the actions the community and the *gram panchayat* could take themselves toward solving their problems. The key questions were:

- how are the issues currently being addressed?
- do we know of any other ways of solving these problem?
- in which direction would the community like their *gram panchayat* to head?

This step was probably the most difficult. Largely due to lack of time, the community made few suggestions. Often, the DA team had to expose and explain potential options to the community and the *gram panchayat*s.

Formulation of the action plan: The formulation of the action plan leads directly from the identification of preferred options. However, acceptance of any action plan was conditional on its meeting the following criteria:

- technical feasibility;
- social preference; and
- practical viability.

As additional criteria, the agreed actions were further analyzed to determine whether they validate the existing system, alter it or introduce a new system.

The final step in the process is to arrive at a consensus about responsibilities and commitments. The key questions in this step were:

- what commitments can the *gram panchayats* make for implementing the solutions?
- what assistance would they require from outside the village?
- how can accountability be ensured?
- who will monitor implementation and how?

The process of consensus building and moving from preferred options to agreed solutions was not easy. This was where the Strategic Negotiation for Community Action method proved most useful.

Methods and tools

Two methods were used in Tumkur: System Analysis and Planning; and Strategic Negotiation for Community Action. With each of these a range of tools was also tested.

System Analysis and Planning was used primarily to obtain a broad understanding of, and consensus on, the current situation. It also provided pointers to potential strategic options. It included assessment of:

- potential and constraints of the natural resource base;
- social and economic parameters crucial to the development process in the *taluk*; and

- existing local institutions and their willingness and capacity to reflect and act.

Mapping was the primary tool used to assess the natural resource base. The parameters studied included present land use, slope and relief, soils, soil fertility, land irrigability and land capability, hydrogeomorphology, and drainage. Each theme was studied individually from satellite imagery analysis and ground truth verification with local communities. The themes were then integrated using overlay techniques to derive a proposed land use and water resource management plan. While the study area covered about 100,000 hectares, the action plan was for micro-watersheds of approximately 500-1000 hectares.

The tools of ranking and cause-effect chain, together with other participatory rural appraisal (PRA) techniques, were used to assist in understanding the socio-economic parameters critical to the development process. The Egg of Sustainability and the Barometer of Sustainability were used to help some of the *gram panchayats* and villages assimilate information related to the development process.

At the same time, an assessment of institutions was carried out to examine how the process of development takes place at the community level. This included factors such as financial control, decision making, capacity for action, commitment and accountability. The institutions assessed included government line departments involved in development activities, the NGOs in Tumkur, and *gram panchayat*s. The analysis concluded that the *gram panchayats* are the best choice since their presence is local and they have maximum interaction with the community. However, due to the composition of the *gram panchayats*, decision-making at the that level was sometimes found to be biased toward providing greater benefits to the richer groups.

While System Analysis and Planning highlighted the options for sustainable development, **Strategic Negotiation for Community Action** was used to seek consensus on action: What should the development process look like and what role is each stakeholder willing to play? The key steps in strategic negotiation included awareness generation, perceptions assessment, consensus building, and agreement.

Mapping was also used as a major tool. Negotiations were held through formal meetings with *gram panchayats* and other agencies, informal small group meetings and field checks with local farmers. Model demonstration projects, formal and informal training programmes and workshops, employment of local communities, and specific responses to enquiries helped considerably in building opinion, consensus and, ultimately, agreement.

Partnerships

The Tumkur experience has forged a series of partnerships at various levels. Within Tumkur the understanding between people and *gram panchayat* members has improved in several cases and the interaction between different *gram panchayats* has increased. Several district officials have also recognized the value of greater interactions with *gram panchayats.* The role of an NGO like DA is seen to contribute positively to the development process.

Beyond a project partnership or a geographic location, there is enormous potential for networking, which the Tumkur experience has only begun to cultivate. In February 1995, DA brought together local institutions and individuals for an introduction to the Tumkur challenge and to the ideas that were being tested there. The audience was very responsive and voiced concerns, needs and aspirations. People had little apparent difficulty in recognizing the advantage assessment for problem-solving. Building such networks is essential to the advocacy task ahead.

The piggyback experience

The experience in India has included the dissemination and extension of this emerging assessment approach to local NGOs. These NGOs have adopted and adapted various outputs of the project, and this piggyback experience has had valuable lessons to offer.

The *Ubeswar Vikas Mandal* (UVM) in Udaipur, Rajasthan, and the *Mussoorie Gramin Vikas Samiti* (MGVS) in Mussoorie, Uttar Pradesh, are NGOs working to redress environmental and social imbalances in regions with severely degraded lands. This project's assessment learning was shared with them as an idea for reflection and as a possible opportunity for action. Both found our approach for assessing progress toward sustainability to be in harmony with their ethical foundations and their own intense preoccupation with defining issues of wellbeing within their communities. Both embraced the approach and have adopted parts of it in their own work.

UVM is concerned with the threat of desertification in southern Rajasthan and northern Gujarat due to deforestation in the Aravalli Hills and the socio-economic crisis afflicting the local tribal populations as a result. A dialogue within UVM village communities on the causes of degradation and the options for redress had been sustained for over seven years. In this context, the methods and tools developed by the International Assessment Team have been welcomed as sympathetic and refreshing. Yet they are regarded as inadequate for challenging what UVM regards as the basic cause of suffering: a false and unsustainable paradigm of development which encourages an inequitable distribution of scarce and fragile resources.

MGVS began its work in the lower Himalayas almost a decade ago with attempts to protect the forest resources of a group of villages located in extremely rugged country. The Chipko movement for forest protection, which was born in this area, had served as a catalyst for awareness and action

among these remote and deprived communities. Villages managed by women, the elderly and children, survived on money-orders sent back by migrant workers in the distant plains. MGVS soon discovered that the well-being of trees and grasses could not be addressed adequately without also paying attention to socio-economic wellbeing: earning opportunities, health and education. This experience attracted MGVS to the tools developed by the International Assessment Team. *Questions of Survival* echoed MGVS's own concerns and was quickly modified to strengthen reflection, first within the MGVS team and then between the team and the village communities which it serves. MGVS responded to an opportunity offered by DA and IUCN to develop mapping skills and now uses Map Maker to improve health outreach. It will also use Map Maker for environmental understanding and planning. It has reviewed other booklets and materials and has used the Egg of Sustainability and the Pyramid of Action in its PRA work.

The Centre for Environmental Education (CEE) in Ahmedabad is one of India's leading training institutions for environmental managers and activists. CEE has provided space to introduce the IUCN approach in ongoing programmes for participants from South Asia and in others tailored to the requirements of state and central government forestry professionals. Several participants have expressed an interest in contact and feedback.

Learning

The Tumkur experience has taught a range of lessons on process, methods and tools. Process related lessons from our experience have been at two levels: fundamental and operational. The fundamental learning includes:

- The Tumkur experience has helped confirm that with any intervention we need to be clear regarding the time frame and expected multipliers. In the short to medium term, it is prudent to aim for incremental rather than radical changes.

- It is essential to have a basic faith in participatory and consultative processes and recognize their manifold benefits including generating goodwill, empowerment, evolution of responsible and responsive solutions, accountability, etc. However, key players must be equipped with the skills and determination to take such a process to its logical conclusion.
- Any external agency involved in assessment and planning for sustainable development at the local level must commit itself to define its role and responsibility in seeing things through. It is unethical to raise the expectations of local communities and leave them frustrated at the end of the assessment and planning process.

At the operational level there are both new lessons and confirmation of hypotheses that we started out with:

- Even though we went into Tumkur with open minds and allowed the process to evolve, we realized that it is important to clearly understand the steps involved and the possible methods and tools that could be adopted.
- Building rapport and credibility is the most critical initial step of the assessment and planning process to be undertaken by the external agency. Local presence and a long-term stake in the community are critical for establishing credibility.
- A visible end to the process with tangible outputs is essential for the local community to be involved enthusiastically.
- It is imperative to have a responsible local vehicle (institution) with adequate influence within the mainstream to undertake the assessment.
- The assessment and planning process is repetitive, at times tedious, exhausting, and often frustrating and yet it can also be revealing and satisfying. The core team members must have the determination to carry it through with rigour, without cutting corners.

The two methods used in Tumkur were System Analysis and Planning and Strategic Negotiation for Community Action. There were some general lessons:

- Before applying any method, it is essential to have certain basic requirements in place. These include a sound information base or a process of obtaining it; adequate techniques and tools; appropriate expertise and motivation; and requisite finances.
- The rigorous application of any assessment method should serve a larger goal, rather than becoming an end in itself.
- It is important to recognize that the responses and suggestions made by communities are themselves a result of existing mind-sets, world views, knowledge and information. It is essential to identify the perspectives and change them where necessary.

Testing the System Analysis and Planning method specifically taught us the following:

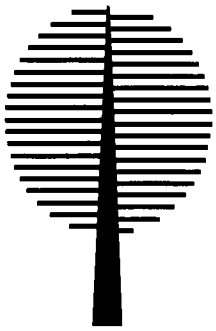
- The methods and tools of assessing individual components of the system, such as natural resources, socio-economic conditions and institutions, are strong. However, methods and tools of linking and synthesizing components are weak. The problem is even more severe when it comes to methods for evolving strategic options for sustainable development.
- Besides being a methodological issue, assessment is also an issue of content. There are very few "solutions" that are proven on a reasonably large scale. Hence, the missing link between understanding problems and defining solutions. Globally, there is a need to test, on a large scale, "solutions" that have demonstrated their worth in smaller or isolated settings.

The lessons learned in developing and testing Strategic Negotiation for Community Action were:

- The most important enabling condition for Strategic Negotiation to work as a method is the presence of a sufficiently influential local institution with the requisite backing.
- Social and decision-making systems, especially long-established ones, resist change. Constant interaction and sensitive receptors within systems are essential to promote change.
- Changes are often brought about by recognizing and promoting enlightened self-interest. Most sustainable development strategies do not recognize this and hence fail to be accepted by the local communities.
- Even after agreements have been reached, differences that might appear to have been ironed out can resurface during implementation. The support team should anticipate the re-emergence of such differences and be ready at all times to address them appropriately.

Lessons learned by the Tumkur team while developing and applying various tools included:

- A critical factor is how to select a particular tool or a combination of tools for a given context. A comparative checklist is essential for practitioners.
- Several of the tools and skills for strategic negotiation are scattered within a range of professions. They need to be adopted and packaged for local level sustainable development planning.
- The Tumkur experience demonstrated the power of mapping. Mapping emerged as the most versatile tool used and the one which was most enthusiastically received by all.
- The Pyramid of Action was particularly useful in helping *gram panchayats* and communities understand the limitations they place on themselves and the need for attitudinal change.
- It is important to check out local sensitivities before applying tools. For example, while pilot-testing the Egg of Sustainability it was found that the concept could backfire since locally an egg connotes stupidity.



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Founded in 1948 as the International Union for Conservation of Nature and Natural Resources, the IUCN brings together States, Government agencies and a diverse range of non-governmental organisations in a unique world partnership: over 900 members in all, spread across some 136 countries. As a Union, IUCN seeks to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable. The Union builds on the strengths of its members, networks and partners to enhance their capacity and to support global alliances to safeguard natural resources at local, regional and global levels.

The Strategies for Sustainability Programme of IUCN works to strengthen strategic planning, policy and implementation skills aimed at sustainable development at global, national and local levels. Working with networks of strategy practitioners from member governments, partner institutions and NGOs, the Programme assists in the conceptual development and analysis of experience in strategies, the development of a range of strategic planning and action planning skills, and improved methods of assessing human and ecosystem wellbeing.

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